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Paper Men's Conference Well Attended

More Than 200 Executives At Annual Autumn Convention of National Paper Trade Association, Held At Stevens Hotel, Chicago—Optimism Over Improvement in Business Conditions Generally Expressed—Various Affiliated Groups Hold Sessions During the Three Days Meeting

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, October 10, 1930.—The business depression in general and the condition of the paper market in particular were the chief topics of discussion at the National Paper Trade Association Fall meeting which was held in Chicago, October 6, 7 and 8. All meetings were held at the Stevens Hotel and were well attended with more than two hundred paper executives at the various sessions. Various groups affiliated with the National Paper Trade Association held special sessions during the three-day conclave with the Western Paper Trade Association, the Salesman's Association of the Paper Industry, Middle States Association and Central States Paper Trade Association groups drawing excellent attendances. Both Frank Floyd, secretary of the National Paper Trade Association, and A. W. Chamberlain were in evidence assisting in the running of a business meeting that was successful from start to finish. Executives, in general, were optimistic over the improvement in business conditions.

Price Cutting Evils Thrashed Out

Aside from various business problems, including the drastic cuts in the bag and kraft industries, and the necessity of maintaining a sound business integrity and constant sales pressure, executives at the meetings found the program of the survey committees and the cost control sessions of unusual importance. Six committees met in session on the morning of October 6 with the Survey and Credit Committee of the Fine Paper Division, the Survey Committee of the Wrapping Paper Division, the Kraft Committee and Council, Gummed Tape Committee and Gummed Tape Simplified Practice Committee meetings well attended. Perry Lesh, of the C. P. Lesh Paper Company, Indianapolis, presided at a round table discussion of members of the Central States Paper Trade Association at noon on October 6 with the price cutting evils and general uncertainty of some markets getting the most attention.

Bishop Stewart Discusses Business Ethics

At the same time the Salesmen's Association of the Paper Industry held its luncheon meeting in the North Balroom with Harold Knott, head of the Chicago Division presiding. The early part of the program was given over to a presentation of golf trophies with the announcement also made that the big Harbison trophy cup would be played for again next year inasmuch as the New York division did not play this season's competition and the Chicago group would not accept the cup by default. Bill Tilden, of Eastern, won a low net prize offered by the *American Paper Merchant* and the president's trophy, presented by the president, Sam Knode, of Albemarle, was won by Creighton Whiting, of American Writing, for the lowest net on one nine. Frank Prentiss, Hollingsworth & Whitney, received an award for his work as golf chairman. The address was given by the Rt. Rev. George Craig Stewart, chaplain of the association. Recently returned from Europe, he gave a masterful description of present conditions there and wound up his short discussion with a splendid portrayal of proper business ethics. This discussion was one of the finest heard at the entire meeting.

Fine and Wrapping Divisions Report

During the afternoon of October 6 Executive Committees of both the Wrapping Paper and Fine Paper Divisions reviewed the past months of work, analyzed present conditions and endeavored to chart new paths for the near future. Twine, Bag and Trade Relations Committees of the Wrapping Paper Division met also in the afternoon. The Trade Relations Committee meeting consisted of discussions from a group of chairman of various committees and provided an interesting picture of conditions in every line—with each division and line showing a marked similarity as far as present business problems are concerned. In the evening of the first day the Western Paper Trade Association, with L. J. Marshall, of the Marshall Paper Company, president, presiding, held a dinner meeting again featured by interesting round table discussion. The Board of Directors ended the day's program with a business session.

Cost Accounting Session Held

One of the most important sessions of the Fall meeting was held on Tuesday morning, October 7. With President K. S. Warner presiding, a Cost Accounting session was held in the North Ballroom, preceded by an outline of the year's activities presented by F. E. Floyd, executive secretary. His report indicated the remarkable work done by the association at a time when organizations everywhere are called upon to demonstrate their merits or quit. The work of the association during the depression has been excellent. An address on "Co-operative Trade Accounting," given by J. C. Niemeyer, of Ernst & Ernst, New York, gave the members present an opportunity to see the part that net profit control and other forms of trade accounting can play in developing individual concerns and the industry as a whole. Trade Accounting is a big feature of the National Paper Trade Association program and this meeting, with Mr. Niemeyer present to further the discussion was

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Canadian News Print Consolidation Expected

Proposed Plan Would Create Holding Company Which Would Control Canada Power & Paper, Abitibi, Backus-Brooks Interests and Canadian Mills of International—Combined Daily Capacity of Plants Controlled Would Be 7,000 Tons

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 13, 1930.—Plenty of gossip but no actual news. This about sums up the situation in regard to the giant news print merger believed to be impending here. If the so-called "reliable information" of the newspapers is anything to go by, then negotiations are proceeding satisfactorily. Delays in definite developments, it is stated are only to be expected, as it is the intention of the various groups who are negotiating to work for a complete consolidation, and not to stop short of this if it is within human possibility. It now seems to be accepted that the Canadian mills of the International Paper Company may come into the picture, the plan being to create a holding company which would control as its major elements Canada Power and Paper, Abitibi Power and Paper, the Backus-Brooks interests, and the Canadian mills of the International Paper Company. The combined daily capacity of the mills thus controlled would be 7,000 tons per day, leaving independent producers in Canada with a capacity of 4,500 tons.

A despatch from Sault Ste. Marie suggesting that unless demand improves the Espanola mill of Abitibi Power & Paper Company is not likely to operate this winter has a bearing on the situation. This is one of three mills operated by the Spanish River group, and has never been regarded as particularly efficient. A considerable shifting about of operations at various mills in order to take advantage of the lowest cost operations might reasonably be anticipated as the result of any consolidation.

MacLaren Co. Starts Production

The news print mill of the James MacLaren Company at Buckingham, Ore., has just started production, and is shipping the output of one of its two machines through to the St. Lawrence Corporation. Each of the machines has a capacity of 125 tons per day. There is a pulp mill attached to the plant and power is supplied from a 25,000 h. p. development on the Lievre River. The company is now completing another development of 90,000 h. p. at High Falls, the output having already been sold to the Ontario Hydro-Electric Commission.

The company has further made application for approval of construction of another plant on the Lievre River about 21 miles east of Ottawa. At this point it is proposed to develop an additional 120,000 h. p. through creation of large breakwater more than 100 feet high. Four turbines will be installed, each capable of developing 30,000 h. p.

News Print Freight Rates Hearing

The Board of Railway Commissioners, sitting in Ottawa, has been engaged during the past week in hearing arguments on behalf of the Canadian news print interests against the proposed increase on freight rates for news print.

The hearings have arisen out of the increased rates on news print published by the railways some time ago, this increase affecting only such traffic as originated in Canada and had its destination in the United States. Inasmuch as such an increase affected also United States carriers, the question was argued, for the publishers and other news print users of that country, before the Interstate Commerce Commission. Hearings began before that body in 1928 and were ended last May. The Interstate Commerce Commission has not yet rendered judgment. The Canadian hearings, before the board of railway commissioners, were begun last spring and will continue for some time yet.

Guy Tombs, of Montreal, representing a group of news print manufacturers, gave lengthy evidence. Regarding the price of news print f. o. b. New York a discussion arose as to whether the producer or the consumer paid the freight. The price of news print f. o. b. mill in Grand'Mere group was $55.20 per ton, but was quoted at $62.00 New York, "freight included." Mr. Tombs argued that the freight was paid by the producer, and Mr. Fraser that the consumer paid it. The two agreed to differ.

Asked whether he considered that news print should be carried at a rate lower than hay, Mr. Tombs answered in the affirmative.

W. J. Mathey, representing several groups of news print users in the United States, stated that should the suspended increase in freight rates on news print become effective, United Stated publishers would look elsewhere than Canada for their sources of supply.

To the publishers in thirteen cities west of the Mississippi River the increased rates would mean an added cost per annum of $208,000, Mr. Mathey said. That was assuming that the same volume of news print was carried as before. This increased cost could not be passed on to the consumer for various reasons. First, the price of newspapers could not be increased. A number of newspapers had endeavored so to do in the past, and the net result was loss of circulation. This resulted in a loss of advertising. But circulation revenue was a small consideration in the sources of newspaper funds. It frequently happened that the small sum paid for a newspaper did not actually cover the cost of the news print of which the journal was made-up.

Advertising charges could not be increased, for the reason that this was a highly competitive field. Most firms set aside an annual appropriation for advertising and placed their advertising to best advantage. Any increase in advertising charges would merely result in less space being purchased by the advertiser, and consequently the newspapers would become smaller, with a decline in the volume of news print used, he said.

Advertising had dropped considerably this year, Mr. Mathey proceeded. In 118 newspapers surveyed there had been a total loss for the first eight months of the present year of 104 million lines, or 2-10th less than for the same period in 1929.

As far as the absorption of the increase by the publishers was concerned, they could certainly look to other sources of supply, said Mr. Mathey. General costs in the publication of newspapers had greatly increased in recent years, and for reasons of economy there had been many newspaper mergers in the United States. These had resulted in a diminution of news print used.

There were four other sources of supply, witness went on, which were not affected by increased railway transportation charges, but were largely accessible by water. Mr. Mathey cited Europe as the first.

In Kansas City, Mo., European news print was quoted at $2.00 less than Canadian, and European agents were very active in prosecuting their sales. The price at New York was $55.50 per ton, the same as the Canadian mill-price.

Other sources were Newfoundland and Nova Scotia. It was noteworthy, Mr. Mathey said, that while European and Newfoundland news print had increased 44,000 tons during the 7-month period of 1930, the importations of Canadian news print had dropped 52,000 tons.

With regard to Nova Scotia, there was a new mill at Liverpool with which *The New York Herald-Tribune* had contracted for delivery of 25,000 tons for this year and next. Other contracts had been let to this mill. All the news print transported from Nova Scotia to United States points was water-borne, and thus was not affected by any projected increase in railway freight rates.

There were other Canadian mills as a third source of water-borne supplies, located adjacent to navigable waters and capable of supplying newspaper publishers in Washington, Chicago, Detroit, New York and Baltimore. State canals were being investigated by publishers with a view to developing their employment for the transportation of news print. In the southern states the cities of St. Louis, Kansas City, Memphis, Evansville, Louisville, Cincinnati and Pittsburgh were all accessible to barges by the Mississippi and Missouri Rivers.

The fourth water-borne source was the Pacific Coast. The use of the Panama Canal made it possible to ship direct from the west coast to eastern and mid-west points, the Mississippi being employed for the latter.

It therefore followed that all such sources would be closely examined by the United States publishers should their costs be increased by an upward revision of the freight rate on newsprint, Mr. Mathey said.

Reduction in Stumpage Rates

The Quebec Government has announced a reduction of 50 per cent in stumpage and on all burned timber in the Province cut before March 31, 1931. In addition, other reductions will be made on wind-thrown timber and logs cut for manufacture. The new rates are expected to lead to more activity in lumbering operations during the winter.

It is understood that the New Brunswick Government will also reduce stumpage dues. The schedule which is planned covers stumpage per 1,000 feet for sawed logs at $2 instead of $3; on pulpwood, $2.70 per 1,000 feet instead of $3.50, and on all other classes of timber the stumpage is one-third less than the present rate.

Huge Power Plant Approaches Completion

The initial power plant of the Alcoa Power Company of America at Chute-a-Caron, on the Saguenay River, which attracted wide attention in engineering circles last summer when an immense concrete obelisk was dropped into the bed of the Saguenay, blocking the channel in the course of a few seconds, will probably be completed early next spring, according to information received here.

With a head of approximately 180 feet, the first Chute-a-Caron power plant will produce an average of 260,000 h.p. which will be generated by four turbines, each unit developing 65,000 h.p. While some of the electric energy may be placed on the market, it is believed the great bulk will be utilized by the Aluminum Company of Canada at its Arvida plant. The name Alcoa is made up of the initials of the Aluminum Corporation of America.

Finnish Timber & Paper Calendar

Edited by Bertel Fabritius and Onni O. Ojala, the Finnish Timber and Paper Calendar for 1930 has just been issued. Some new sections have been introduced in this edition and the material has been partly re-arranged for practical reasons. The number of timber contract forms has been largely extended and contract forms for ply wood are now inserted for the first time. A new feature in the present edition is a table giving full particulars about the Finnish icebreakers.

In the sections enumerating the saw mills, ply wood factories and paper, cellulose, and mechanical pulp mills a great number of alterations have been made, new firms have been added to the list, while other firms have either disappeared or are inserted under new names. All these sections have been brought up-to-date and references to individual firms are as complete and as accurate as possible.

The calendar may be ordered from The Finnish Timber and Paper Calendar, S. Esplanadg, 2 Helsingfors, Finland, for 12/— free of postage.

West Carrollton To Move To Kalamazoo

KALAMAZOO, Mich., October 14, 1930.—An important expansion in Kalamazoo industrial circles is indicated in the announcement made by John H. Vincent, vice prseident of the Kalamazoo Stationery Company, a unit of the Western Tablet and Stationery Corporation. It is to the effect that the West Carrollton, Ohio, unit has been moved to this city and will be in operation here after November 1.

Much of the equipment of the Ohio plant is now on track here and will be temporarily accommodated in the present buildings of the Kalamazoo Stationery Company, but in the spring of 1931 there will be erected on the Harrison street frontage of the concern, a two-story and basement structure, 100 by 300 feet in dimensions, thus adding 90,000 square feet of floor space and necessitating the addition of 50 to 75 employees to the present working force.

Plans for the new building are completed and provide for the use of the two upper floors for manufacturing purposes, while the welfare department and cafeteria will be housed in the basement. The present cafetaria is to be dismantled to make room for the new addition.

J. C. Leindecker, manager of the West Carrollton unit, will be transferred to this city as sales manager and vice president. The West Carrollton division has been equipped to make tablets and school supplies.

The Kalamazoo Stationery Company is now working near to capacity, despite the general decline in business. Millions and millions of Christmas greeting cards are going out daily, while the sales in boxed stationery is holding up well.

"We have little cause for complaint regarding our last year's business," said Vice President Vincent. "Despite the depression, business has held up well. Some departments are running a bit light, but that is always true at this time of the year with those particular divisions."

The Western Tablet and Stationery Corporation has plants at Richmond, Va.; Huntington, W. Va.; Kalamazoo, Mich. and St. Joseph, Mo. Richmond supplies the south eastern states; the Huntington plant looks after the eastern and New England states; Kalamazoo from the Mississippi river east to West Pennsylvania and south to the Gulf of Mexico and the St. Joseph works to that territory west of the Mississippi. Shipping conditions are highly favorable.

Volume of Sales Large in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 13, 1930.—Little change is seen in paper business in this territory. Business volume is larger than it was in the summer but it is felt that unseasonably warm weather has served to keep down buying. Many of the larger advertisers who were preparing for winter or all least fall merchandise, have held back until cooler weather. There are big plans being made, however, for Christmas business.

Just now there are innumerable inquiries for fancy holiday papers and boxes from manufacturers of a big line of merchandise, particularly tobacco and candy manufacturers. From all indications there will be an increase in merchandise of this sort sold this year as compared with last.

Local paper jobbers do not appear worried about business conditions. An improvement is noted during the last two months in demand for fine papers and this is expected to become more noticeable once weather conditions look like fall and winter. News print is increasing in volume, but slowly.

The continued favorable weather, has had a better influence on demand for building papers than was expected.

No change is seen in general buying tendencies, which continue mostly from hand to mouth. It is to be said to the credit of local paper houses that their stocks are well balanced.

Ontario Paper Manufacturers Fairly Active

Bulk of Business Consists of Orders For Immediate Requirements, With Only Moderate Amount of Tonnage Booked Ahead—Demand For Various Grades of Fine Paper Improving—Coarse Paper Market Rather Quiet For Time of Year

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, October 13, 1930.—Somewhat spotty conditions prevail in the wholesale paper market in Ontario, although gradual improvement is being shown in most paper lines, chiefly fine papers. Orders by consuming firms are being placed more freely and there are evidences of increased activity in commercial circles generally, although it cannot be said that orders are on a large scale. In some cases paper merchants reported quite a satisfactory month during September but sales were on a small order basis and as far as the printing trade goes paper was and is being delivered to the printing plants after the job is set up. In other words, while the printing industry is using a fair amount of paper none of the firms will stock up beyond the requirements of the work in hand. But it is noticeable that the paper orders being placed by the printers are of larger bulk than they have been for some time which would indicate that a considerable amount of work that has been held up during the lean months of summer is now being released. Catalog and direct mail lines, which fell off greatly during the summer months, are now demanding attention and this has meant a considerable increase in the consumption of fine papers of late. All told it is apparent that the wholesale paper trade is gradually coming into its own again and there is every confidence that the remaining Fall months will see a distinct revival in business for the paper merchant. Trade generally throughout the province has been stimulated by the new tariff announcements from Ottawa and both the printing and paper trades have been among the first to reflect improved business conditions.

In the manufacturing end of the paper trade a fair amount of activity exists, made up largely of current business, with only a moderate amount of tonnage booked ahead. Very few branches of the paper manufacturing business can be said to be operating at capacity but this is not to be expected under present conditions when it is doubtful wisdom to run full and make up stock for future sale. Some of the fine paper mills, also, are handicapped somewhat by demand for hurry up orders of small tonnages which interfere with the long runs which make for economy and profit. Notwithstanding this, however, manufacturers of book, writing and ledger papers are placing comparatively small tonnages here and there which has made for a steady and even distribution and on the whole a satisfactory bulk of orders from week to week. On the whole the mill demand for fine papers may be said to be showing gradual improvement and things look quite promising for the last quarter of the present year. The coarse paper market is none too active, wholesale firms report that sales are increasing in number but not in individual size. No coarse paper consuming source is buying ahead but the market is in such a shape that a prospect of increased prices on any of the wrapping paper lines and paper bags would likely bring buyers into the market on the run. The demand for paper bags just now is light, although manufacturers of flour sacks have been getting some nice business.

The board mills are still operating lightly but are busier than a few weeks ago and it is thought that ere long they will have caught up to the over-production that has handicapped this branch of the paper industry for some months past. The paper box industry is beginning to show some activity again and this will help out the board mills materially. There is a fair demand for Canadian-made blanks, blottings and manilas and mills making tissue, toilets and specialty lines continue busy with some orders ahead and the outlook for Fall trade good. It is difficult to gather in sufficient business to keep the waxed paper, grease proof and glassine machines running full and business in these lines may be said to be dull. There has been only a moderate improvement in manufactured stationery lines and the paper converting trade generally is not reviving as quickly as some other branches of the paper trade.

British Columbia Expects Tariff Benefits

According to word from British Columbia the pulp and paper industry in that province is expecting material benefits from the new tariff changes recently inaugurated at Ottawa. Paper bag and container manufacturers in British Columbia, who have heretofore met strong competition from the products of Sweden, Belgium and the United States will now have an opportunity of eliminating the provincial market and getting a good share of western Canadian business. This industry is a growing one and today it is capable of supplying every requirement of the province for paper boxes and bags and can easily adapt its plants to suit the needs of Western Canada, manufacturers state. Previously St. Louis and San Francisco offered heavy competition on the domestic market in corrugated and other boxes. British Columbia, it is stated, can supply sufficient fiber to enable domestic manufacturers to meet an almost unlimited demand in corrugated containers. By capturing the British Columbia market and expanding into the western Canadian field, plant capacity may be increased and more employment found for British Columbia workingmen.

Paperboard Creditors Get Six Per Cent

Toronto creditors of Canadian Paperboard Company have received cheques for a six per cent dividend from F. C. Clarkson, of Toronto, the trustee. In a covering letter enclosing the cheque, which is marked "first and final dividend," it is stated that the cheque for this six per cent dividend is "payable by the receiver acting for bondholders for the creditors' interests in the assets, after payment of the claims of the bondholders." It is further stated that "with such sale of assets, the creditors do not alienate or dispose of their equities in the estate, whatever they may be, after the payment of bondholders' claims." The letter adds that the business is now being operated and making some minor profits and that the hope and expectation is that eventually some re-organization or re-arrangement will be made which will give a reasonable return to creditors. Operations of the Toronto and Montreal plants of Canadian Paperboard Company have been on a more encouraging scale of late. It is said that a slight improvement in the market for paper board products might justify the company considering re-opening one of the mills at Frankford or Campbellford, Ont. It will be remembered that at the beginning of 1930 the dividend on the preferred stock was passed, and a few weeks later interest was suspended on the bonds. A receiver was appointed in February, 1930. After a survey of the situation the Frankford and Campbellford mills were closed down and operations concentrated in the Toronto and Montreal plants. Canadian Paperboard is one of the oldest producers of paper board in Canada. It owns four plants with a total daily capacity of 220 tons of board. The Toronto mill is the largest with a production capacity of 100 tons a day. The company directly controls the Quinte and Trent Valley Power Company which supplies power and steam to the parent company and municipalities. In turn, Quinte and Trent Valley owns the

capital stock of the Frankford Electric Company. This company owns and operates power and steam plants at Frankford and Campbellford. Following upon the troubles of the parent company, Quinte and Trent Valley Power was forced to pass its preferred dividend.

Pulp By-Products Being Utilized

Difficulties experinced by news print manufacturers in Ontario and elsewhere throughout the Dominion during the past year have resulted in much study and experimentation in connection with by-products from wood pulp. High grade insulating board products, developed from previously considered waste material, are now profitable side lines in the output of several manufacturers. Paper alpha, another specialty, is a bleached pulp used in the highest grades of white paper. One of the main features of this product is its permanence. It is also used in the manufacture of artificial leathers and in the manufacture of shatterproof glass. Cellate, a bleached fiber having exceptionally high strength and tear, is a discovery of chemical research in pulp. This material is used in the manufacture of high grade white paper and bags for flour, coffee and other food products. Another product is duracel, an exceptionally strong semi-bleached pulp used in manufacturing sand-paper, tags, bags, cable insulating fiber string and pleating papers. Silk alpha is another product used in rayon artificial silk. Such products as turpentine, wrapping paper, envelopes, bags and special fibers find ready and profitable markets.

Espanola Mill Not To Re-open

It is unlikely that the Espanola mill of the Abitibi Power and Paper Company, which has been closed down since May, 1930, will operate this winter. In the event of a continued shutdown, wood from the mill will be shipped to the Soo and used at the plants there. At present there are two machines in production at the Soo mill and the starting of others depends upon the demand for news print. Three machines have been operating at various times during the past summer.

Roofing Paper Records Big Growth

Growth of the roofing paper and wall board industries in the Dominion is indicated by statistics just released by the Government. The value of production has grown to $6,111,663 in 1929 from $5,844,387 in the preceding year. Products of the industry are composition roofing in rolls, building paper and insulating and construction wall board of all kinds. In all cases the figures for 1929 show increases over those for 1928. Raw materials used are chiefly paper, felts and paper board. The report deals first with the production of roofing materials and wall board, made principally of paper, as reported by the eleven establishments which specialize in its manufacture. These eleven firms form an industrial group which is treated as a separate industry under the industrial census. There are also a number of establishments which specialize in the production of other commodities and are classed in other industrial groups, but which report the production of paper roofing and wall board as side-lines or by-products. Of the eleven establishments which form the industry proper, one was located in New Brunswick, three in Quebec, four in Ontario, one in Manitoba, and two in British Columbia. Generally speaking these firms purchase felt paper and paper board from the paper mills and treat these with various preparations. There was a total of $7,439,641 invested in these eleven plants which form the industry proper. It gave employment to 207 salaried employees and 342 wage earners. The eleven establishments in this group reported the purchase of 18,478 tons of felt and other paper valued at $1,216,868 and 6,180 tons of paper board valued at $278,922. They also purchased 278 tons of wrapping paper and $1,488,614 of chemicals, surfacing materials and other supplies.

Notes and Jottings of the Trade

Charles Dupuis has been appointed superintendent at the Port Arthur mill of Provincial Paper, Ltd. He enters upon his duties with an established reputation for making the lines turned out by Provincial and is widely known in paper circles.

The No. 1 machine at the Interlake Tissue Mills plant at Merritton, Ont., has come into production after its recent reconstruction and is said to be running satisfactorily. Some additional machinery is being installed in the mill as part of a program of improvement.

Toronto paper men are interested in the forthcoming marriage of W. H. Aird, assistant to the managing director of the Howard Smith Paper Mills at Montreal, to Miss Cameron, one of the city's most popular young women. The wedding is to take place this month.

J. B. Larkin, general manager of Kilgours limited, Toronto, was in Montreal a few days ago on business.

The Don Valley Paper Mills, Ltd., Toronto, have recently gone into the manufacture of staple cut cards of the commercial type formerly imported into this country. The line includes square cut visiting cards and similar varieties of small blanks sold by manufacturing stationers and others.

A visitor to Toronto last week was Sir Benjamin Robertson, who is in this country with the object of studying Canadian industries, including the pulp and paper industry, and the conditions under which they operate. While in Toronto Sir Benjamin was entertained by George Carruthers, president of the Interlake Tissue Mills, Ltd., whom he met during a recent visit Mr. Carruthers made in the British Isles.

J. E. Patterson, manager of operations for the Abitibi Power and Paper Company, has returned to Toronto after a business trip to Sault Ste. Marie.

H. R. Telfer, sales manager of the Detroit Sulphite Pulp and Paper Company, Detroit, was in Toronto last week visiting their local representatives, Paper Sales, Ltd.

The Abitibi Pulp and Paper Company will provide all local employees at Espanola, Ont., who are now out of employment, with work if they will go to Abitibi Canyon, where the company has huge electrical power development in progress. Work at the Canyon will absorb all the former employees of the company on the construction job. It is expected that between 250 and 300 men will avail themselves of the opportunity.

A recent business visitor to Toronto was A. G. Hulburt, of the District of Columbia Paper Manufacturing Company, Washington, D. C.

The Columbia Paper Company, Ltd., have opened in Vancouver a new six-story steel and concrete warehouse. The building is equipped with two electric elevators of 4,500 tons lifting capacity and with a system of communication tubes. Spacious offices and a large display room are located on the main floor.

About 10,000 cords of pulpwood, valued at $75,000 and belonging to the Ontario Paper Company, was destroyed by fire of unknown origin at Wasach, near Cochrane, a few days ago. The wood was piled close to the mill of the Hawk Lumber Company and it was only by the exceptional work of the Ontario Forestry Service that the fire was prevented from spreading to the lumber mill.

Reforestation Under the Hewitt Law

[FROM OUR REGULAR CORRESPONDENT]

CORINTH, N. Y., October 6, 1930.—Reforestation work was inaugurated this week in Saratoga county under provisions of the Hewitt law with the planting of about 100,000 trees in the town of Day. The work is being carried out under direction of W. G. Howard, superintendent of State Forests, and will require about a month to carry to completion. In accordance with the Hewitt law the Saratoga County Board of Supervisors has appropriated $2,500 to carry out the project and the state also co-operates by providing a similar sum. Those who attended the proceedings included J. A. Cope, extension forester of the College of Agriculture, W. A. Durham, of Corinth, J. K. Losee, of Clifton Park, and H. B. Little, manager of the Saratoga Farm Bureau.

Demand For Paper Broadens In Philadelphia

Various Standard Grades Are Now Moving In Greater Volume Despite Irregular Prices—Paper Bag Situation Unsatisfactory Due to Persistent Price Cutting—Southern Kraft Back to Former Level Following Brief Reduction

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., October 13, 1930.—Growing demand for small lot orders has spurred the paper market to broader activity in the past week and while not the type of buying that brings profitable traffic to dealers there is encouragement in the improvement that leads the trade to look for still better times in the near future. Though demand has improved in the standard grades of paper, prices still continue to be confusing, with a few grades advanced and still others marked down to new lows for the current year. These disturbances are discouraging and dealers state they are not able to give quotations without fear that changes will be made before deliveries or that their customers will hear of cuts in prices and cancel purchases. This uncertainty applies to large shipments of paper as the small lot buying is for immediate needs and would indicate that consumers are not well stocked.

A sore spot in the paper market is the bag situation, which has been most discouraging. Large corporations with a national distribution state that prices have been cut within the past thirty days to from 12 to 15 per cent. All the large concerns have been subjected to the disturbances of the day and with little evidence that prices will steady at this time, there is much gloom in the trade over the outlook.

Kraft Prices Advanced

After a brief reduction of prices which were made a few weeks ago when $3 was lopped off the ton on kraft from southern manufacturers the value has again been raised to the price prevailing before the cut and is selling at a minimum of 3½ cents per pound. This advance took place last week after the manufacturers had secured sufficient tonnage to keep up operations over the month. The dealers state that the recessions in value did not stimulate buying as few of the distributors in the local market have been able to take advantage of the reduction owing to the fact that they are fairly well stocked for any needs that may arise at this time or for several weeks to come.

Though a few dealers report betterment in the board market there is little encouragement given in reports from the large manufacturers who have been confronted with one of the dullest years of the post war period. However, advances have been made by Schmidt & Ault, York, Pa., on grey bogus which is now $4 a ton higher. Other well known manufacturers of bogus are expected to follow suit. Better grades of folding boards, specialties, colored and sulphite boards are holding firm at higher prices. Tissues are steadier but prices of wax and grease proof products which were in demand over the hot weather are lower than a few weeks back. Building papers show evidence of improved outdoor construction in preparation for the coming winter, and roofings, sheathing, felts and like builders supplies are all in broader demand but still lack normal seasonal shipments from both manufacturers and dealers.

Holiday Specialties Offered

Now that the trade has settled down to the coming Fall business there is a movement to promote holiday buying by offers of specialties that will be needed for Christmas in papers and containers for that occasion. Manufacturers are making the rounds of the dealers with such designs in wraps and boxes and merchandising sacks and this year cellophane and transparent papers are bearing the insignia of Yuletide for the individual concern or for the trade. Box makers supply dealers are offering new designs for gift carton and some of the folding boards are imprinted with Yuletide greetings and floral designs that fit into needs of this class.

A better demand for paper stocks was apparent with the past few days orders from the manufacturers. All grades became active but were not moving in normal seasonal proportions. There are few of the better grades on hand, so that the sudden demand removed all available supplies from warehouses of dealers.

Box Board Products Adds New Whiskey Container

The Boxboard Products Company, with executive offices located in the Atlantic Building, 260 South Broad street, has added to its line of specialties in containers for shipping purposes a new Mineralite box which has been accepted by the prohibition department and by express and railroad companies, on a parity with authorized wooden boxes. It is approved by the ICC specifications —24 for inflammable liquids where wooden boxes are otherwise specified. These new containers in Mineralite boxes for shipping packages of 24 one-pint bottles of whiskey augment the former line manufactured by the firm under its own patents for the shipping of oil, grease and other products for which the Mineralite products are adapted. These whiskey and other Mineralite boxes are so constructed that they give positive evidence of tampering of contents in its patented banding arrangement of the opening division in the box. It is capable of easy packing and the tough sturdy product insures its safety in warehouses during the time the boxes are stacked high or during transportation. These new whiskey and alcohol boxes are now used by the majority of alcohol manufacturers of the nation. Its saving in express charges is 33 per cent. The manufacturers of the Mineralite products have compiled a booklet under title "How Business Can Help Conserve Our Timber" through the use of Mineralite boxes which is being sent to the trade. It shows many uses for paper boxes of this character as substitutes for the bulkier wooden containers where heretofore only wood was employed and which through Mineralite has developed a new field for paper board.

Thomas R. Fort, Jr., Honored

A special tribute was paid to President Thomas R. Fort, Jr., head of the firm, who was presented a bouquet of flowers by the workers in honor of his 71th birthday, celebrated the preceding Thursday. The floral tribute was presented by the president of the club, John Baker Tuttle, who made a brief address on behalf of his associates and extended the good wishes of the group for long life and happiness. He was followed by Norman W. Fort, who expressed his appreciation of the tribute to his parent and then President Fort spoke, his words of thanks being those of hearty and deep feeling for the kind thoughts and co-operation which had been extended by the workers in the long business contact of fifty years with which he had been associated in the Thomas W. Price Company. He then gave a resume-of the trip to California which he had enjoyed this summer. Theodore W. Johnston, general manager of the company, was called on and he, like his predecessors on the program, responded to the good will existing between workers and employers and gave in humorous vein his memories of the long years of association with the firm and in witty repartee commented on individual members to the merriment of all. A visitor to the outing was Mrs. Nan Maut, who gave recitations and lead the singing and entertainment of talent in the ranks of the employees which followed the service of the beef steak dinner in the evening and the awarding of prizes by Mr. Fort. Those who arranged the outing were Retired President

J. T. Baker, Vice President Joseph Lonabaugh, Secretary Wilis F. Benner and Treasurer J. Harry Werner. The new officers elected were President Miss Mary Hogan and Vice President Reuben P. Levick, while the former secretary and treasurer were re-elected.

G. W. Haner to Join Local Paper Reed Staff

Having removed the plant of the National Patent Reed Company from its former manufacturing quarters at Unionville, Conn., the former director of production, George M. Haner, will join the staff and is to move to Philadelphia shortly. Mr. Haner was formerly engaged in the manufacture of reed paper products with New York plant as head of the George M. Haner Company, joined the National Patent Reed Company at Unionville three years ago and since has been in charge of its production. The National Patent Reed Company is controlled by Earl W. Twitchell, who is also head of the distribution concern of E. W. Twitchell, Inc., now quartered with the National Patent Reed Company in its new plant and offices at Tulip and Emerald streets, where the firm is engaged in the manufacture of paper reeds used in the production of baby carriages, reed furniture and for other purposes where natural reed is used.

Thomas W. Price Co. Outing

With its 63 associates and guests attending the Vici Club, the social organization of the Thomas W. Price Company, 503 Ludlow street, participated in the annual outing held at the Kugler Mohican Club at Morris-on-the-Delaware last Saturday. The group of employees with officials of the company, President Thomas R. Fort, Jr., and his son Norman W. Fort, motored to the scene of the outing in a special bus and by private cars about noon time and then opened the program with a series of games and other outdoor diversions. There were prize awards given to the members who joined in the foot races, dart contest, ball games and trick golfing tournament staged on the grounds, with Miss Dorothy Buchanan winner of the running race in the girl's contest; Miss Helen Young winner of the basketball game and Ann Butts awarded the trophy for ball tossing. Miss Mary Hogan won the dart contest and was honored with the presidency of the club at the election of officers which followed. This is the first year that the fair sex has been enrolled in the membership of the club and the first joint participation of the women associates of the firm in the annual gathering. Winners of the men's sports were Box Quinn, who was awarded the trophies for the basketball contest and running races and Fred Hafele, who won the dart throwing laurel, while in the Trickey Golf Tournament the low net went to Daniel Hess, and the first and second prizes to John M. McGonigle and Frederick Dubbs, Jr.

J. E. Flannery Co. in New Quarters

Following the destruction of its old location at 6th and Cherry streets by fire a few weeks ago the paper stock concern of J. E. Flannery Company has secured new quarters at 607-11 North Hope street, where sales offices and warehouses are located. The firm has secured 50,000 square feet of space in the building and will resume its wholesale paper stock business which for more than 25 years was located at the Cherry street address and was the former business of the Lynch Paper Stock Company.

J. Harvey Rex Takes New Offices

J. Harvey Rex, who was formerly associated with the John M. Driver Company, and who since the dissolution of that concern has been engaged in business on his own account, representing the Shellmar Products, has taken offices in the new Terminal Commerce Building, Broad street. He is occupying the seventh floor office adjoining E. L. Richards Company, conducting sales in this territory of the Shellmar Company.

Plant of Patrick Corr and Sons Afire

The waste plant of Patrick Corr & Sons, one of the oldest of its kind in the city, located at southeast corner of Trenton avenue and Oakdale street, was subjected to damages by fire which started in the basement and was confined to the lower section of the building. Several bales of woolen waste in which the firm specialized was destroyed as well as damage done to the structure. The firm, a member of the Wholesale Waste Merchants Association of Philadelphia, was a pioneer concern engaged in the waste trade of the city.

Blaze Wrecks Former Diamond State Plant

Fire destroyed the former plant of the Diamond State Fibre Company, which was operated on the Delaware River near Elsmere Junction in Wilmington, Del., late Friday and which was still equipped with valuable paper making machinery at the time of the blaze, though not engaged in production in recent times. A dozen frame buildings on the site which were equipped with valuable machinery were destroyed including drayage house, boiler rooms, offices and warehouses used by the fiber company which abandoned the plant two years ago.

Superintendents Executive Committee to Meet

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, October 13, 1930.—A meeting of the executive committee of the American Pulp and Paper Mill Superintendents' Association, will be held in this city, Sunday, October 19, it is announced by Carl Magnus, national president.

It is stated that representatives of the various divisions that comprise the National Association have been invited to participate in this session.

It is expected that all members of the Executive Committee will attend the meeting of the Miami Valley Division of the Superintendents' Association at Hamilton on October 18.

A feature of this meeting will be a visit to the mills of the Champion Coated Paper Company in Hamilton and an inspection of the plant of the Black-Clawson Company and Shartle Brothers Machine Company of which firms the superintendents will be guests.

One of the pleasant events will be a golf tournament at the Butler County Country Club course near Hamilton. At night the guests will assemble for the dinner at the club as the guests of the coated paper concern and the manufacturers of paper mill machinery and accessories.

St. Helens Pulp & Paper Co. To Build

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., October 11, 1920.—Max Oberdorfer, president of the St. Helens Pulp and Paper company, St. Helens, Ore., announced October 6 that a contract had been let to A. Guthrie Construction company for an additional unit to the plant, in view of the fact that an additional paper machine is to be installed. The machine has been ordered and will be on the ground as soon as the building is completed. The new addition will increase production about 30 per cent and will require 50 more operatives.

Several thousand dollars will comprise the investment above the cost of the machine which is designed to turn out a lighter grade of paper than is now being produced. Surplus stock will be used in this manufacture.

The new unit will be ready for operation in about six months.

Inland Empire Provides for Improvements

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., October 11, 1930.—Information received in northwest financial circles early this month is to the effect that public offering will be made shortly of $350,000 of a first and general mortgage bond issue of a $600,000 issue for the expansion of the Inland Empire Paper company, Spokane, Wash. The financial program will provide for extensive improvements to the plant, it is stated. A total of $250,000 bonds have been placed privately, and the remainder will be offered through investment houses of Spokane. Bonds are due $75,000 a year in from three to 10 years.

Paper Industry Near Normal In Wisconsin

Shut Downs Necessary During General Depression Have Been Brief—Full Working Day Will Soon Replace Short Schedules Followed By Several Mills — Construction In Progress Will Improve Production and Lessen Operating Costs

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 13, 1930.—Gradual improvement is being shown in the paper industry of Wisconsin and it is expected that normal operations will be reached within a few months' time. There has been no crisis during the period of general depression and shut downs necessary in a few cases were brief. Short schedules were followed by some mills in order to keep all of their men working, but these will soon be abandoned in favor of a full working day.

Expansion plans of one or two large companies have been abandoned for the time being. About the only building now in progress is additions and changes which will improve production and lower operating costs. Quite a number of new boiler plants have been installed, and several mills are now overhauling their wood rooms so as to utilize more modern machinery.

Construction work has been started by the Riverside Paper Corporation, Appleton, Wis., on an addition to the storage building. The building will be 55 by 60 feet, and 18 feet high. Materials will be reinforced concrete, steel and face brick. The cost will be about $7,500. C. R. Meyer & Sons Company, of Oshkosh, Wis., has the contract.

Plans are also being drawn up for an addition to the Telulah mill of the Fox River Paper Company, Appleton, Wis. The nature of the improvement has not been revealed but it will provide necessary enlargement of operating facilities.

After operating on a schedule of five hours a day for a number of weeks, the Valley Iron Works Company, Appleton, Wis., will resume its 8-hour a day custom, according to R. A. Peterson, treasurer. Employes alternated working days so as to provide work for all until conditions improved.

Federal Forest Areas in Wisconsin

Creating of another large federal forest area in Wisconsin is in progress as a means of conserving the timber supply. Marinette County has voted to sell the United States Government 22,000 acres to be added to what will be known as the Oconto Valley National Forest. If adopted by the government the new forest will embrace about 350,000 acres, of which 289,000 will be in Oconto, 40,000 in Langlade, and 22,000 acres in Marinette County. The location is considered ideal for the purpose. Four other locations also are being considered, making a total of 1,800,000 acres under federal control.

Fall planting is in progress at the Moquah national forest, near Washburn, Wis. A total of 650,000 seedings will be planted on 1,000 acres. Most of the tract will be planted with Norway pine, but some white pine and spruce also will be included.

Three hundred acres will be added to the Flambeau Forest Reserve, a state owned tract, according to plans of the Wisconsin Conservation Commission. The total acreage will then be 1,800.

An estimate prepared by F. F. Wilson, of the Wisconsin College of Agriculture, indicates that the present supply of spruce in Wisconsin could supply the paper mills for only three years, while the balsam would last thirteen years.

News of the Industry

Extensive logging preparations are being made by the Patten Paper Company, Ltd., Appleton, Wis., on its timber tract at Amasa, Mich. A logging railroad twelve miles long has been built to connect with the main lines. Camps also are being built. Quite a large amount of timber will be taken out, including pulp wood supply.

Fire damage of about $2,500 was caused at the Outagamie mill of the Patten Paper Company, Ltd., at Kaukauna, Wis., last week. Flames started under the floor of the beater room and presented a stubborn problem. The mill was shut down entirely until tentative repairs could be made.

An interesting account of the establisment and growth of the John Strange Paper Company, Menasha, Wis., was given the Rotary Club of Menasha in an address recently by Hugh Strange, president. The business was established 42 years ago, and still has some of the original employes. The firm is a large producer of paper board and kraft paper, marketed all over the United States.

A. F. Everett, government engineer in charge of Fox River Valley water power and navigation operations, has been transferred from Appleton, Wis., to Grand Rapids, Mich. He is succeeded by Nelson W. Wightman, former assistant engineer in the DePere-Portage area.

A fatal accident occurred at the Fort Howard Paper Company, Green Bay, Wis., last week. Louis Henry, the oldest employe, slipped on the deck of a pulp wood vessel when he tried to dodge a swinging crane. He fell twenty feet into an open hold.

An Unusual Accident at Ashland

ASHLAND, Wis., October 10, 1930

Editor, PAPER TRADE JOURNAL

Last Monday we had a very unusual accident occur at this mill. Our "Safety Committee" believes that by timely advice, we can ward off a similar occurrence in this company.

Our No. 2 paper machine was shut down Sunday morning as usual, but to be down until the following Tuesday. During this time, the worn out steam joints were to be replaced. In removing one of the joints, the cyphon pipe caught and the joint could not be removed. The pipe fitter struck a match and put it inside the dryer to see what was wrong. A violent explosion occurred, which gave the man a severe burn and almost put out his eye.

The gas formation inside the drier can be explained by oil leakage from the steam engine and its contact with the steam which acted the same as the crude oil distillation process.

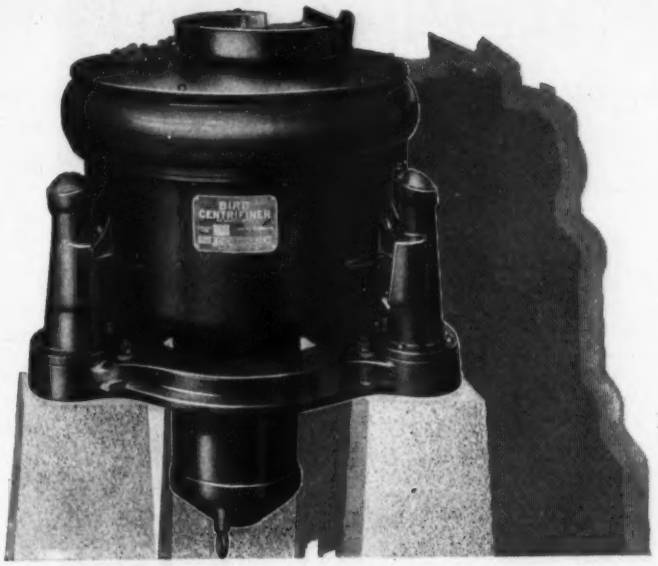
We are hoping that this information will stop a recurrence of this accident in the future, and intend to use a flash light for inspecting the inside of the driers.

By printing this information others may profit by our experience.

MARATHON PAPER MILLS CO.

Wood Pulp for A. P. W. Co. Arrives at Albany

ALBANY, N. Y., October 6, 1930.—Several large cargoes of wood pulp for the A.P.W. Paper Company arrived at the local port terminal this week and a large force of workmen are now busily engaged in unloading. Early in the week the big ocean freighter *Aaro* arrived from Quebec which was followed soon after by the *Dago* and *Gida* from Sheet Harbor, Nova Scotia. Each vessel carried several thousand tons and no difficulty was experienced in navigating the Upper Hudson inasmuch as the channel has been widened to a considerable degree. The docking of the vessels marked the arrival of the fourteenth cargo to be received by the A.P.W. Paper Company over the water route this season and a few more shipments are planned before the cold weather.



BIRD MACHINERY

The Bird Centrifiner is manufactured under license from Centrifugal Engineering & Patents Corp., owners of the Erkensator patents

The papers of the future will be Centrifined papers ...the really clean papers that all buyers prefer.

Will your customers have to go to another mill for Centrifined paper?

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BIRD CENTRIFINERS

4438

Boston Paper Market Shows Seasonal Trend

Fine Paper Distributors Report Decided Improvement, With Volume of Orders Larger and Inquiries More Numerous—Wrapping Paper In Better Demand Than of Late—Box Board Situation Unchanged—Paper Stock Continues Dull

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 13, 1930.—With the convention of the American Legion in this city last week, the paper and allied industries were affected not only here, but to some extent, at least, in other parts of the country, and in varied ways. It was largely a holiday week, with a general closing of business establishments Tuesday when the big parade was held. Then, too, many in the trade and allied branches here and elsewhere are members of the Legion and directly interested in the activities of the organization. One of the evidences of the consumption of paper was the immense amount of confetti and paper streamers thrown along the line of march. While there was possibly less activity in some quarters, from the usual sources of demand, it is estimated that there was a considerable increase brought about by visitors to the city, including members of the Legion. Many more newspapers were sold and a substantially greater amount of writing paper used. Purchases in the stores required wrapping paper, paper bags and paper boxes. Boston seems to have been put definitely on the map as a convention city.

Statements from wholesalers vary. A number of the fine paper houses note an improvement, some a decided improvement. At one house there was a larger volume of orders and inquiries, both for regular lines and specialties. Another firm received more inquiries, without any actual immediate increase in the volume of orders. A representative of one of the prominent manufacturers of fine paper, at the local office, said that there was a better trend in the business of the company, with some better-sized orders and more satisfactory action all through." With some houses the demand was comparatively quiet. The call for wrapping paper improved during the week as a whole, it is estimated. Dealers are naturally hoping for stability in kraft prices, which have been a disturbing element in the market for a considerable period. The box board situation is practically unchanged, with the market mulling along in low prices and the demand somewhat restricted.

The general paper stock situation remains dull. A number of grades have been marked down in price. No. 1 soft white shavings are now quotable at 2.40 to 2.50, compared with a previous range of 2.50 to 2.60, f. o. b. Boston. Book stock is tending downward. Foreign manila rope is quoted at 3.00 to 3.25 against a former range of 3.25 to 3.50. Twine conditions have improved with more action from buyers, although there is room for greater betterment.

Paper Exhibits at Industrial Exposition

The following were exhibitors at the Tercentary Industrial Exposition held under the auspices of the Associated Industries of Massachusetts in Mechanics Building, September 29-October 11.

The American Tissue Mills, Holyoke, displayed many products of their plant, including the Perkins Velox Crepe Paper, tissue, waxed and shelf paper and glassine. The exhibit was in charge of J. F. Harrington, special representative. This company wishes to have the name "Perkins" associated with its products.

The Ames Safety Envelope Company, Boston, manufacturers, displayed envelopes and gave out circulars.

The Arnold-Roberts Company, wholesale paper dealers, Boston, showed 100 samples of various papers they handle, made by Massachusetts mills. The samples included various printed pieces. The booth, which was in charge of C. J. Kinnery, of the sales promotion department, was visited by a number of printers, advertising men and artists.

Bird & Son, Inc., East Walpole, Mass., manufacturers of roofing, building, sheating, wrapping, press board, wall board, insulating solid fiber, corrugated, cartridge and special papers of all kinds, showed representations of buildings in whose construction their products are used.

The Cambridge Paper Box Company, Cambridge, Mass., in a booth made of large black and silver tubes, displayed their many lines of boxes used for a variety of purposes. The exhibit included a gift box for pillow cases, such as the company makes for the Pepperell Manufacturing Company, demonstrating the creative idea. A store window, containing boxes for various goods, was demonstrated.

John Carter & Co., Inc., Boston, in conjunction with the Buck Printing Company, Boston, displayed papers they handle, with printing by that concern. The exhibit included paper boards on which a special paint is used, demonstrating results of the "paint process."

The Carter's Ink Company, Cambridge, included carbon paper at their booth.

A feature of the booth of Eaton, Crane & Pike was a demonstration of paper making with a miniature model of machinery, etc. The display included some of the bond papers made by the company, new boxes and new ideas in monograms. The booth was in charge of Miss Gladys H. Boardman.

The Esleeck Manufacturing Company, Turners Falls, Mass., displayed their onion skin and manifold paper. The booth was in charge of Donald Weston, assistant treasurer and sales manager.

The Falulah Paper Company, Fitchburg, in their display of Falpaco coated card board lines, emphasized particularly their Falpaco Black, which has been developed and added to their products in the last two months, and for which the company has received orders from as far as California and Texas. The company showed their new type of coated blank, "Mohawk-Kraft-in-Middle," in every way similar to the regular Falpaco in printing qualities, but also containing a sheet of kraft in the middle, so that it is possible by knife scoring through the surface to bend the board. The exhibit was in charge of Walter A. Lowe and J. L. Whitney, of the kraft department.

The Feculose Company of America, Ayer, showed samples of their products used for beater sizing and surface sizing.

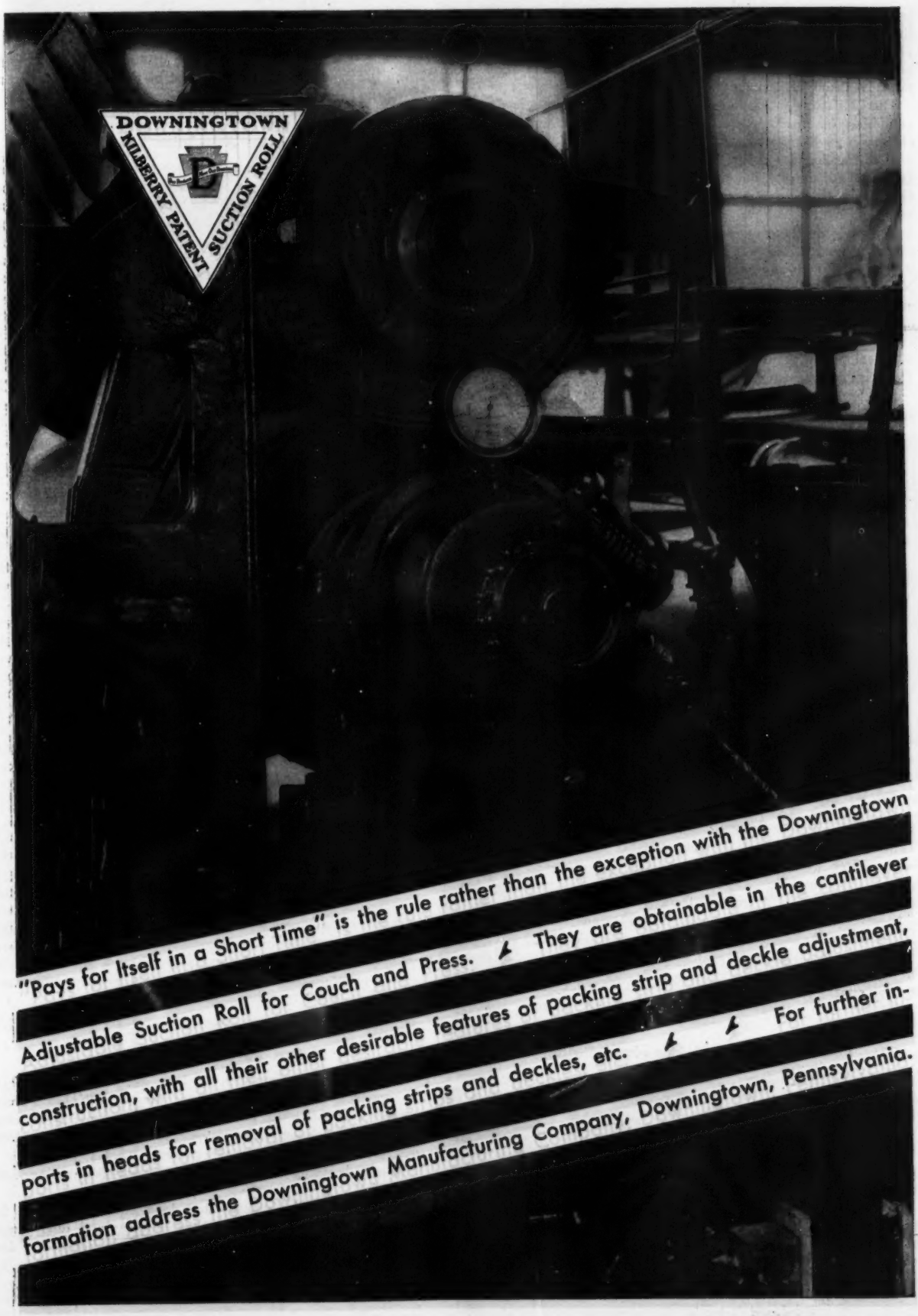
The John A. Lowell Bank Note Company, Boston, displayed samples of their work and presented callers with engraved copies of a list of the exhibitors, containing a picture of George Washington on the front cover.

The Miles Kedex Company, Leominster, showed imitation leather, with C. C. Miles, owner and general manager in charge.

The Ludlow Manufacturers' Associates, Ludlow, with the National Net and Twine Company, a subsidiary of the company, showed flax, jute and hemp products.

The Plymouth Cordage Company, Plymouth, displayed types of their product, with photographs showing their uses. A feature was the certificate from Admiral Byrd in regard to rope employed on his trip to the South Pole. A stream hawser 21 inches in circumference used for ocean towing was shown. The exhibit was in charge of Fred A. Jenks.

The Samson Cordage Works, Boston, displayed all their products and showed a moving picture of the entire process of manufacture. William R. Dewey, of the Boston office, with a staff of assistants, was in charge.



"Pays for Itself in a Short Time" is the rule rather than the exception with the Downingtown Adjustable Suction Roll for Couch and Press. They are obtainable in the cantilever construction, with all their other desirable features of packing strip and deckle adjustment, ports in heads for removal of packing strips and deckles, etc. For further information address the Downingtown Manufacturing Company, Downingtown, Pennsylvania.

The Strathmore Paper Company, Mittineague, displayed their lines of papers made at West Springfield and Worcester, with pictures of the manufacturing process, some of the raw material and dyes. The exhibit was under charge of Robert Clark, of the advertising department.

The Tileston & Hollingsworth Company, Boston, gave an exhibition of making paper by hand, demonstrating with machinery used 130 years ago. The company featured their Papers of Old-Fashioned Quality, in appropriate surroundings of old-fashioned furniture. The display included commercial size moulds secured in England last summer by Arthur V. Howland, vice-president of the company, who was in charge of the exhibit. Paper made on these moulds was shown, and a fac-simile of the *Boston Evening Post* of March 6, 1775, containing mention of the original company were given out. From October 28 till November 28 the company is to demonstrate again this old-time mode of paper making at the Craftsmen-at-Work Exhibition in the Hotel Statler Ballroom.

The United States Envelope Company, featured a general line of envelopes with Linweave as a special announcement line. The exhibit was in charge of N. O. Hayes, manager of the Logan, Swift & Brigham Department, and D. B. Logan, manager of the Logan Drinking Cup Department.

News of the Trade

A luncheon meeting of the Wrapping Paper Division of the New England Paper Merchants Association is to be held at the Chamber of Commerce next Thursday. It is expected that some of the football coaches of local colleges will give talks on football and that the tables will be appropriately decorated.

A number from the local trade attended at Holyoke, Mass., the funeral of the late William D. Judd, who was president of the Hampshire Paper Company, Inc., South Hadley, Mass. They included William N. Stetson, president of Storrs & Bement Company, John Vivian, president of Cook-Vivian Company, A. C. Hall, treasurer of John Carter & Co., Inc., and Edward Bement, secretary of the New England Paper Merchants' Association.

The annual statement of the Stevens Paper Mills, Inc., Westfield, Mass., just made public, includes the following: Assets—Manufacturing plant, less reserve for depreciation, $232,425; merchandise, $21,421; accounts receivable, $1,072; cash, $6,796; deferred charges, $17,787; unliquidated manufacturing exp. $8,581. Total, $288,082. Liabilities—capital, $60,500; mortgages, $90,000; accounts payable, $9,478; notes payable, $35,000; sundry accrued exp., $2,615; surplus, $90,489. Total, $288,082.

The October issue of *How*, published by Tileston & Hollingsworth, edited by A. V. Howland, is specially prepared for the United Typothetae of America, which holds a convention in Boston this week. The number is twice the usual size and contains several interesting articles. It is printed on Crinoline plate, wove, white, with Crinoline cover, green.

Clifton S. Hall, manager of the envelope department of John Carter & Co., Inc., has been welcomed back at his desk again after an illness which began last May.

Portable Link-Belt Conveyor Folder

The Link-Belt Company, Philadelphia and Chicago, has just issued a folder, No. 1248, describing its "Cub" Portable Belt Conveyor.

The contents of this folder contain a description of the machine, its parts, and gives a comprehensive list of the many industries in which this type machine has been used for handling various materials at low cost.

Illustrations of these machines at work under many conditions are shown, along with complete specifications of this loader—the "Cub." A copy will be mailed gratis, upon request to the nearest Link-Belt office.

PAPER MERCHANTS MEET IN CHICAGO

(Continued from page 21)

interesting. A discussion of "Profit Insurance and Distribution of Range Finders" was well presented by C. A. Spaulding, chairman of the Wrapping Paper Survey Committee and A. W. Leslie, chairman of the Fine Paper Survey Committee.

Middle States Association Luncheon

With Leo S. Altholz, president, presiding, the Middle States Wrapping Paper Association held its luncheon on Tuesday noon, October 7, with the activities of the association relative to present conditions in the paper bag and kraft markets providing the topic of discussion. Realization that leadership in combating present conditions must come from the paper merchants themselves and that the associations must initiate and put over constructive measures to maintain stabilization of prices made the meeting an important one. In the afternoon the Fine Paper Division meeting was held in the North Ballroom with vice president J. F. Miller, presiding. Following brief reports of association activities L. M. Sidener, of Sidener, Van Riper & Keeling, Indianapolis, spoke on the "Value of Promotion" and Homer J. Buckley, Chicago direct mail advertising expert, talked on "Postal Problems." Mr. Buckley is a keen student of postal problems and he made his talk from the standpoint of the paper manufacturer and user.

Report on Standardized Sampling

A report on Standardized Sampling, given by W. H. Rourke, of the Rourke-Eno Paper Company, and R. C. Fay, Chairman of the Standardization Committee of the American Paper and Pulp association, followed Mr. Buckley's talk. With the thought in mind that the paper industry is one of our vital national enterprises, steadily expanding with discoveries of new uses, this report took on additional interest.

On the final day of the three-day program the Wrapping Paper Division held the floor, with A. W. Blackman presiding at the divisional meeting in the North Ballroom. Beginning at 9:30 a.m. with reports of the Executive Committee, given by A. H. Chamberlain; Vice President, given by A. W. Blackman; Survey Committee, given by C. A. Spaulding, and Kraft Committee by S. L. Wellhouse, the meeting was featured by two addresses, one by H. W. Ellers, of the Albemarle Paper Company, and the other on the "Outlook in Distribution" given by K. W. Jappe, vice president of the Brookmire Economic Service.

Twine and Tissue Reports

Following Mr. Jappe's remarks, G. W. T. Skinner gave the report of the Twine Committee and A. J. Corning the report of the Tissue Committee. Frank Floyd summed up other wrapping paper problems, including the ever important stabilization problem, much as he did at the Fine Paper Meeting on the previous morning. The meeting closed with paper merchants face to face with the fact that as members of the association and as paper merchants themselves they must provide the initiative and the "steam" to carry on a program of stabilization, improved business ethics and greater and more far reaching distribution.

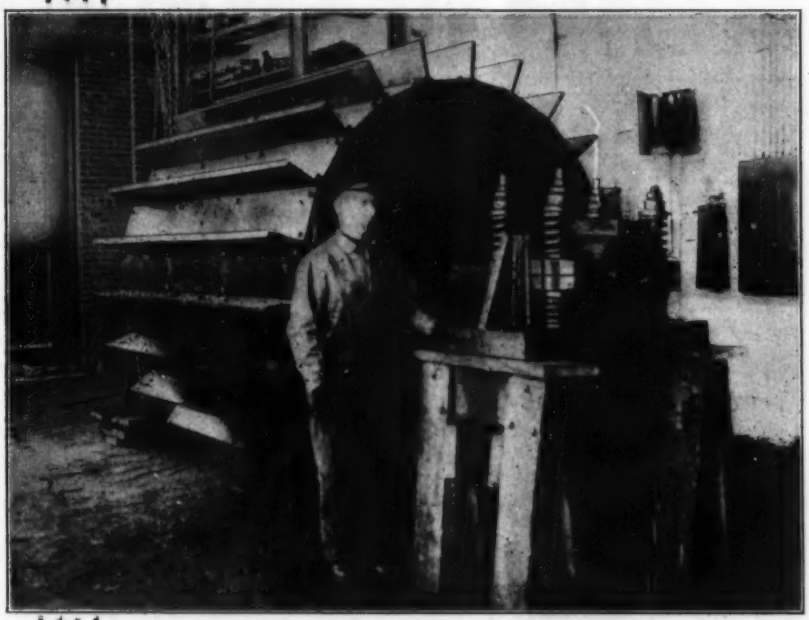
Koban Parchment Paper

The Mountain Mill Company, of Lee, Mass. and New York City, announces a food wrapping paper, known as Koban Parchment Paper. This product, packaged for consumer use at 25 cents and 10 cents the package, has innumerable uses, many of which are described and pictured on the package.

The paper is being featured as "sanitary, space-saving and odorproof."

The Mountain Mill Company has long sold its product in a wholesale way, for use by Packers of meat and other food products. The consumer idea was evolved by a housewife, for use by other women.

400 LBS.



Each Bar in this Roll Weighs 400 Pounds.

The Breaker Beater Roll shown above is reputed to be the largest Beater Roll ever built. It is 84″ in diameter; 87″ face.

It is all steel with hammered steel spindle, cast steel heads, extra heavy steel Fly Bars and the wood filling is protected by metal covering. It is the DILTS BANDLESS TYPE without bands or rings to hold the Bars. Each Bar is keyed into each of the steel heads. No loose fits, no shims, each key driven home and each fit independent of all other fits. Strong, simple and practically indestructible.

Estimates gladly furnished.

— Dilts —

MACHINE WORKS Inc. FULTON, N.Y.

"Your Paper Is Made in Your Beaters"

New York Trade Jottings

The New York Stock Exchange has admitted to listing 155,302 additional shares of common stock without par value, or voting trust certificates therefore, of the Celotex Company.

* * *

Summerfeld Eney, Jr., of the Champion Coated Paper Company's New York staff, is attending the 44th annual convention of the United Typothetae of America at the Hotel Statler, Boston, this week.

* * *

George A. Nelson, vice-president and secretary, and Herbert Farrier, resident manager, of the Japan Paper Company, New York, are representing their organization at the U.T.A. Convention, which is being held in Boston this week.

* * *

Prevailing business conditions were freely discussed at the regular weekly meeting and luncheon of the New York Division of the Salesmen's Association of the Paper Industry, held at the Fraternities Club, on Tuesday.

* * *

William J. Wilson, Jr., for several years treasurer and sales manager of the Ticonderoga Pulp and Paper Company, recently resigned this connection to become associated with the Bradley McKeefe Corporation, 522 Fifth Avenue, New York, a chemical engineering organization specializing in pulp and paper mill work.

* * *

O. F. Swanson, sales manager of J. Andersen & Co., and the Pulp and Paper Trading Company, New York, who has been indisposed for some time past, was operated upon last Saturday morning at the Brooklyn Hospital. His many friends in the paper industry will be pleased to learn that the operation was entirely successful and that he is progressing nicely.

* * *

W. A. Beh, formerly with the Liquidometer Company, has joined the Package Development Department of the Du Pont Cellophane Company of 2 Park Avenue, New York, and will be in charge of machine wrapping projects. At the present time cellophane wrapping machines have been developed for cigars, cakes, coffee cartons, narrow fabrics, candies, boxed items and many other products.

* * *

Confronted with the problem of how to eliminate the waste from the waste paper industry, more than 100 waste paper dealers and packers from the Eastern part of the United States met last Friday, October 10, at the Hotel Astor to organize an Eastern Division of the Waste Paper Institute, which was formed at Chicago several months ago. The function of the institute, as described by Newell Lewis, temporary president, will be to seek cooperation among individual dealers for the stabilization of the industry, and to draw up a code of trade practices to submit before the Federal Trade Commission. Benjamin Schwartz, director general of the Institute of Scrap Iron and Steel, Inc., outlined the benefits to be derived from an organization representing the entire waste paper industry. He pointed out that the annual business of dealers in waste materials throughout the country was approximately $1,500,000,000, of which about $100,000,000 represented the waste paper industry.

New Naylor Pipe Catalog

Comprehensively describing the Naylor Pipe Line, the new catalog of the Naylor Pipe Company, of 1230 East 92nd street, Chicago, is profusely illustrated and a model of typography. Engineering data taken from the test report made on Naylor Pipe by Melvin L. Enger and W. M. Lansford in the Materials Testing Laboratory of the University of Illinois, is shown. The results clearly demonstrate the unique structural qualities of Naylor Pipe.

Carlisle Heads Black River Valley Club

WATERTOWN, N. Y., October 11, 1930.—About fifty members of the Empire State Forest Products Association gathered this week at the Black River Valley Club for the annual organization meeting at which directors and officers for the year were elected. John N. Carlisle, of the St. Regis Paper Company, was elected president to succeed George W. Sisson. Thomas H. Stirling was elected vice president taking the former position occupied by Mr. Carlisle and W. C. Sykes was re-elected treasurer. The secretarial post will again be occupied by A. B. Recknagel, of Albany. The board of directors elected includes the following: George N. Ostrander, of Glens Falls, chairman; W. C. Hull, of Tupper Lake; Clarence L. Fisher, of Lyons Falls; John N. Carlisle, of Watertown; Thomas H. Stirling, of Mechanicville; George W. Sisson, of Potsdam, and A. A. Low, who succeeds E. A. Sterling. The new members are F. B. Wilson, who succeeds John N. Hinman, and A. A. Low.

During the business session it was brought out that the members own approximately 1,300,000 acres or one-third of the entire timber land in the state. Among those who heard the various committee reports during the afternoon session were Raymond H. Torrey, secretary of the Association for the Protection of the Adirondacks; Ralph Hosmer, head of the forestry department of Cornell University; H. T. Collingwood, of the American Forestry Association at Washington; Dean Hugh P. Baker, head of the forestry department of Syracuse University; Professor Nelson Brown, of Syracuse University; William G. Howard, superintendent of the state division of lands and forests; J. R. Simmons, secretary of the New York State Forestry Association, and Professor J. A. Cope, forester of Cornell University.

The committee on forest fire prevention, headed by Clarence L. Fisher, brought out that fires caused by hunters and campers have resulted in a greater proportionate loss in the various districts this year than in 1929 and it was emphasized that publicity and education must be the important factors in stamping out these losses in the future. The total loss estimated by these fires was $88,575, of which amount timber to the value of $42,785 was destroyed. It was also stated that the committee on reforesting is studying the possibility of developing a reforesting program on a large scale but this cannot be carried out with much headway unless better protection from forest fires is afforded. The committee also called attention to the urgent need for making the remote state forest areas accessible in case of fire by more and better trails.

Class A Common Stock Dividend Omitted

At the meeting last week the directors of the International Paper and Power Company, omitted the regular quarterly dividend on the Class A common stock. Though the expected growth in earnings from the company's power developments and the increasing efficiency of its paper mills has been realized, it has been largely offset by the adverse effect of the present business depression on prices and volume of the company's paper and pulp sales during the last six months. As the outlook is still uncertain, the directors decided that under current business conditions the omission of the common dividend is conservative and in the best interests of all the stockholders.

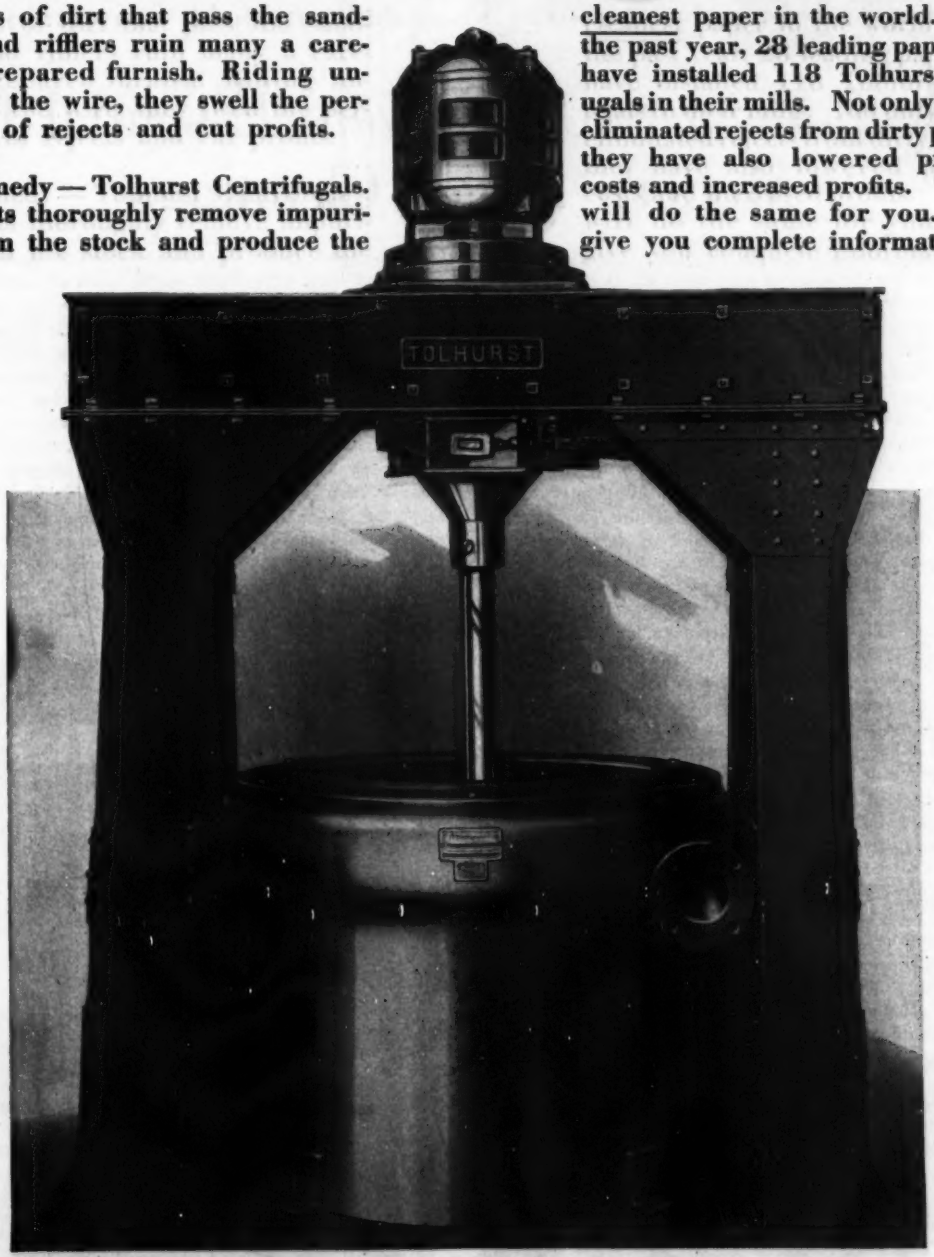
Hawley Pulp & Paper Co. Makes Good Report

PORTLAND, Ore., October 11, 1930.—The Hawley Pulp and Paper Company, Oregon City, Ore., reports earnings in the past four months as in excess of its preferred dividend requirements for the entire year. The statement of officials was to the effect that no alarm is felt by this company on the recent price reduction in news print on the Coast, as only a small per cent of the production of this mill is affected. The company now plans to replace much of its past tonnage with local or West Coast tonnage thus saving freight charges on long hauls required under its past system.

TOLHURST
REGISTERED U.S. PAT. OFF.
Centrifugals

Particles of dirt that pass the sand-traps and rifflers ruin many a carefully prepared furnish. Riding unseen on the wire, they swell the percentage of rejects and cut profits.

The remedy — Tolhurst Centrifugals. Tolhursts thoroughly remove impurities from the stock and produce the cleanest paper in the world. During the past year, 28 leading papermakers have installed 118 Tolhurst Centrifugals in their mills. Not only have they eliminated rejects from dirty paper, but they have also lowered production costs and increased profits. Tolhursts will do the same for you. Let us give you complete information.



TOLHURST MACHINE WORKS INC.
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Tolhurst Paper Centrifugals are manufactured under license from the Centrifugal Engineering & Patents Corp., owners of the Erkensator patents.

4327

POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

Conducted by Reginald Trautschold Consulting Engineer

Mechanical Soot Blowers Essential for Modern Boiler Cleanings[1]

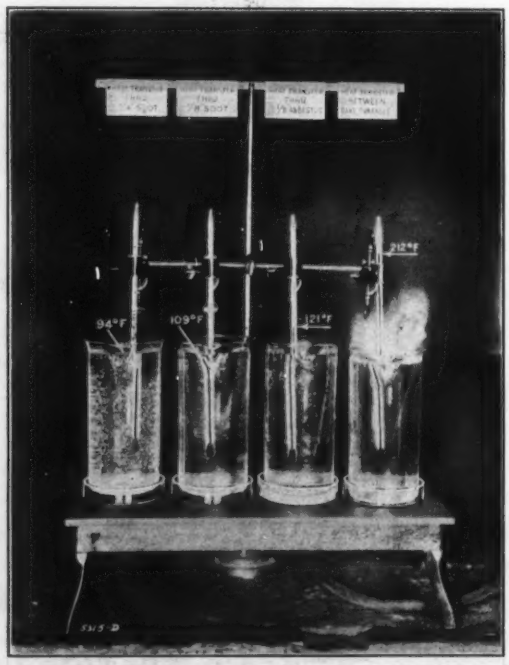
The tax placed upon the cost of steam by dirty boilers; *i.e.*, by permitting the accumulation of soot upon the heating surfaces of boilers, economizers and air preheaters and upon the baffles and refractory linings of the boiler furnace; is strikingly depicted in the view of the four beakers of water heated on the hot-plate. The beaker to the right, the water contents of which has attained a temperature of 212 degrees Fahrenheit, is comparable to the steaming efficiency of a thoroughly clean boiler, while the beakers to the left are indicative of the boiler's reduced steaming capacity when a quarter or an eighth of an inch of soot respectively has accumulated on the heating surfaces, the beakers in question being insulated against the absorption of heat from the hot-plate by layers of soot of such thicknesses. The fourth beaker, that immediately to the left of the beaker containing water at 212 degrees, is insulated from the hot-plate by an eighth inch of asbestos and is included simply to demonstrate that failure to keep a boiler free from soot accumulation is actually more costly than would be the insulation of the heating surfaces with a blanket of asbestos of like thickness.

Rating the heat absorbing capacity of the beaker depicting the steaming capacity of the clean boiler at 100 per cent, comparable ratings for the other beakers, starting from the left, are 44.3, 51.4 and 57.0 per cent respectively. Actually, the thermal conductivity of asbestos is proportionally better than indicated by these figures, soot, by weight, having approximately five times the heat resisting power of asbestos, so that even this graphic and vivid depiction of the heat losses attributable to the accumulation of soot on boiler surfaces, etc., does not do the dirty boiler tax full justice. Furthermore, the accumulation of soot on the baffles and refractories interferes with the radiation of heat to the boiler surfaces and, consequently, cuts down the amount of radiant heat which can be absorbed by the boiler contents. The accumulation of soot in economizers also exacts a toll by aggravating draft losses. In short, a dirty boiler is even more wasteful of fuel than can be shown by a simple empirical depiction.

Of course, the need of cleaning boilers from time to time is generally conceded. This is not the question, however, but rather how economically can the cleaning be consummated and what facilities should be provided for the work? What savings can reasonably be counted upon and how much more economical is the employment of a modern system of mechanical soot blowers than dependence upon a hand lancing system of boiler cleaning?

Based upon the results secured in a large number of installations of mechanical soot blower systems and upon the current cleaning costs in numerous plants employing hand cleaning methods some quite dependable statistics have been compiled, which can leave little doubt in the mind of even the skeptic that the mechanical soot blower system is the far more economical. These recorded data show that systematic boiler cleaning with modern mechanical soot blowers effects a reduction in fuel consumption of from 2 to 5 per cent, as compared with results attained with even the best of hand-lancing cleaning; of from 3 to 6 per cent, as compared with attainments with ordinary hand cleaning; and of from 4 to 8 per cent, as compared with the indifferent and insufficiently frequent cleaning often held to suffice. In many instances the savings in fuel consumption attained by systematic mechanical soot blowing are of much higher order, being according to one authority at least one ton of coal out of every nine tons burned when only ordinary hand cleaning of the boiler is practiced.

This claim of greater savings is advanced by a prominent builder

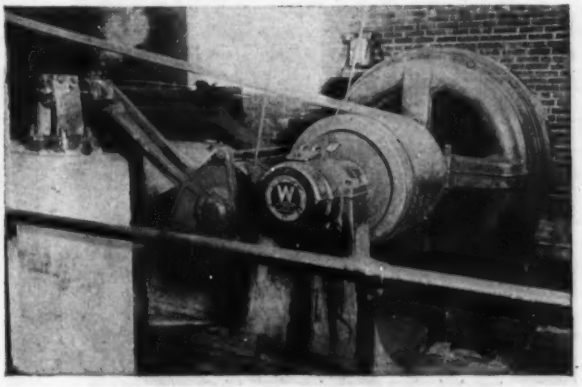


Courtesy: Diamond Power Specialty Corp.

FIG. 1

Graphic depiction of the heat resisting capacity of soot

[1] For previous discussion on mechanical soot blowers, see PAPER TRADE JOURNAL, Aug. 15, 1929.



A 300 H.P. LENIX driven fan. This is a tight-side top installation.

LENIX First Costs . . . *about the average of all other types of short center drives*

LENIX Replacement Costs . . . *much lower than any other*

IF you plan to close your books after getting down the first cost of your proposed short center drive, the LENIX may or may not interest you.

But if you plan to keep them open and record maintenance, depreciation and replacement costs, the LENIX should interest you—most keenly.

The LENIX rates as high as any short center drive and higher than most on the point of mechanical efficiency. But it gives the lowest replacement cost.

If you want low power-transmission costs, computed over the years, you want the LENIX equipped with *any* high-grade extra flexible belting.

F. L. SMIDTH & COMPANY

The Lenix Drive People

Engineers *Incorporated 1895*

225 Broadway, New York, N. Y.

The LENIX Drive

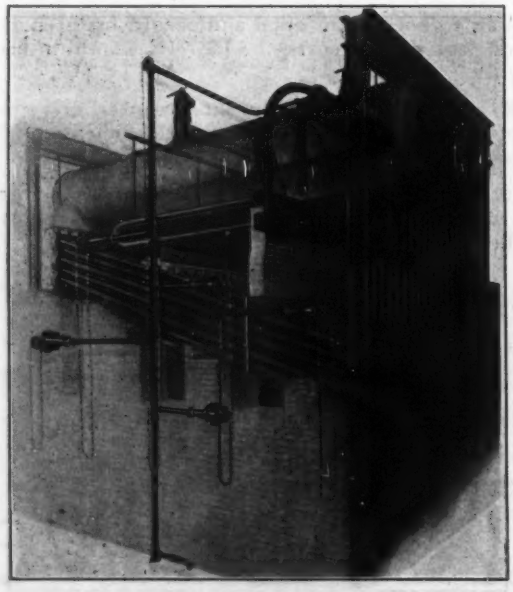
REG. U. S. TRADE MARK

of mechanical soot blowers, who backs up his contention by a virtual guarantee that his particular system of mechanical soot blowing will effect at least such fuel saving. That is, the manufacturer offers to install a complete mechanical soot blowing system in a plant depending upon hand cleaning methods on a month's trial, on the understanding that if the plant in which the system is installed finds that it can afford to be without it, the equipment can be removed and returned to the manufacturer at the end of the trial. An offer of this kind could not be made, obviously, unless an approved modern soot blowing system is very apt to prove to be, as another soot blower manufacturer contends, "the best paying investment in the power plant."

True, considerations of boiler construction, quality of fuel, firing methods, rates of steam generation, etc., all influence the fuel saving which can be effected by virtue of modern soot removal systems, but the foregoing contentions are made in spite of these conflicting factors and the results secured in practice, as evidenced by the carefully recorded statistics maintained in numerous plants, certainly appear to substantiate the claims. Such fuel savings, furthermore, do not represent all the economies or benefits to be secured by the adoption of a modern system of mechanical soot blowers for boiler cleaning, either directly or indirectly.

A direct reduction in labor expenses chargeable to boiler cleaning of around 90 per cent is quite generally realized, for instance, and an indirect benefit is that far better crew morale can be counted upon when mechanical soot blowing is adopted than when dependence is placed upon the much slower and decidedly disagreeable practice of hand cleaning. Where from an hour and a half to two hours are required for the proper hand-lancing of the average boiler, ten minutes or less will suffice for a complete and thorough cleaning of all heating surfaces, as well as boiler baffles, etc., with a modern mechanical soot blower system. The hand cleaning is a tedious, dirty job, which, at best, can be only partly effective in ridding the boiler of the objectionable soot, and is resented by the firemen. The work, as a result, is often neglected and quite generally slighted.

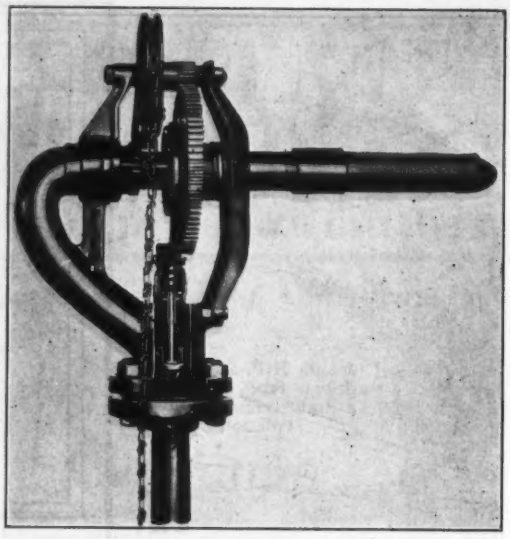
Aside from the fuel saving and the reduction in cleaning labor expenses, the effect of the thorough and regular cleaning of a boiler battery with a properly designed and installed arrangement



Courtesy: Diamond Power Specialty Corp.

FIG. 2

Typical modern, mechanical soot blower installation in horizontal water tube boiler



Courtesy: Diamond Power Specialty Corp.

FIG. 3

Modern, hand operated soot blower head for steam cleaning

of mechanical soot blowers is to elevate the steaming capacity of the individual boilers, often making it possible to meet steam demands with less steam generating equipment in service. In fact, the installation of such a soot blower system may avoid the necessity of increasing the number of boiler units in a battery in order to care for increased steam demands or, even, to permit the cutting out of a unit or two already on the line. Boiler outage is also decreased by a noticeable lengthening of boiler tube life, due to less corrosion and pitting resulting from continued presence of soot on the tubes.

The upkeep expenses of these modern soot cleaning systems is also surprisingly low, a careful check on all repair costs, including the labor charges of installation, over a five year period in twenty-four plants operating in all 221 individual boilers, shows a weighted average annual maintenance burden of 7.99 per cent of the initial installation cost. Such survey should afford a very fair cross-section of the situation, as not only are the boilers furnishing the data scattered all over the United States, but a wide variety of boiler types and sizes, operated over an extensive range of ratings and fired on anthracite and bituminous coals or stokers or in pulverized form and some fired on oil, are represented.

Comparable Cleaning Costs

In individual instances, naturally, there may be considerable departure from these general figures and in many cases the variations indicate the realization of even greater economies and benefits. To cite one example: where in a mid-western plant, operating a large 1,400-horsepower boiler equipped with an interdeck superheater, test runs of four weeks each were made on the comparative costs of cleaning the boiler with hand-lancing and with mechanical soot blowers. Incidentally, the hand-lance equipment cost $100.00 and the mechanical soot blower system $2,505.00. Based upon an average working year of 300 days for the boiler, the annual cost of hand cleaning at 8-hour intervals totaled to $2,323.00, while the yearly cost of cleaning, also at 8-hour intervals, with mechanical soot blowers amounts to only $945.00. These are the totals of the cleaning costs, as itemized in the accompanying table, and do not include savings in fuel consumption. That the latter are quite substantial is indicated by the fact that with hand cleaning every eight hours, the boiler could be kept only about 40 per cent clean, while with the soot blowing cleaning, it is estimated that the boiler was and is maintained on the average 90 per cent clean.

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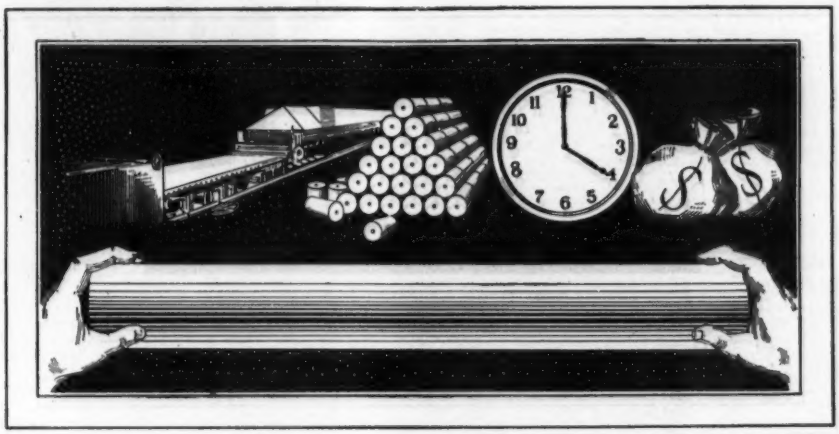
Measure up to YOUR requirements



WHATEVER your machine size or speed; whatever your product; whatever your production schedule;—you'll find Tensilastic Rubber Rolls dovetail in perfectly.

In service today are Tensilastic press rolls 38 inches in diameter, weighing 23 tons; felt rolls 25 feet long and 18 inches through; table rolls, wire stretch rolls, breast rolls, rolls of every conceivable size and plasticity. Many of these have been especially constructed to meet unusual conditions.

Tensilastic Rubber Rolls bring you the supreme service that is the natural result of almost half a century of concentration on rubber roll manufacture; of ten years of intensive research to develop a rubber compound that can be precisely controlled and duplicated as required.

They present a cordial surface to wires and felts; are unaffected by acids, dyes or fillers. They are not readily susceptible to surface scratches or mars, will not corrugate or distort, and, when worn, can be easily and quickly restored to the original, as-new surface.

If you have a roll problem; if you are fussy about plastometer tests and density; if long term economy, service satisfaction and low maintenance mean more to you than penny pinching buying, follow the lead of other discriminating mills and specify Tensilastics. Units, replacements, complete installations,—our facilities enable us to supply them promptly. Write us for full information.

American Wringer Co., Inc.

Roll Specialists for More Than 40 Years

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TENSILASTIC
RUBBER ROLLS

T8

TABLE I
COMPARATIVE CLEANING COSTS
HAND-LANCE AND MECHANICAL SOOT BLOWER CLEANING

Boiler—1,400-hp. double deck, interdeck superheater.
Duration of test—4 weeks, hand cleaning; 4 weeks, soot blowing.
Cleaning Intervals—Every 8 hours.
Cleaning time per interval:
Hand-lance cleaning ..... 4½ man-hours
Mechanical soot blowing ..... 15 minutes
Steam consumption per 24-hr. day:
Hand-lance cleaning ..... 5,100 lbs.
Mechanical soot blowing ..... 2,600 lbs.
Labor time per 24-hr. day:
Hand-lance cleaning ..... 7½ man-hours
Mechanical soot blowing ..... ¼-man hours

ITEMIZED COSTS—HAND LANCING

Steam cost per year (300 days at 30c per M lbs.)	$ 459.00
Labor cost per year (300 days at 65c per hr.)	1,664.00
Interest (6% per annum) on $2,500.00 investment, for erecting special galleries, insalling lancing doors and moving piping obstructions	150.00
Interest, depreciation and maintenance on hand-lance at 50% on $100.00	50.00
Total annual cost per boiler	$2,233.00

ITEMIZED COSTS—MECHANICAL SOOT BLOWING

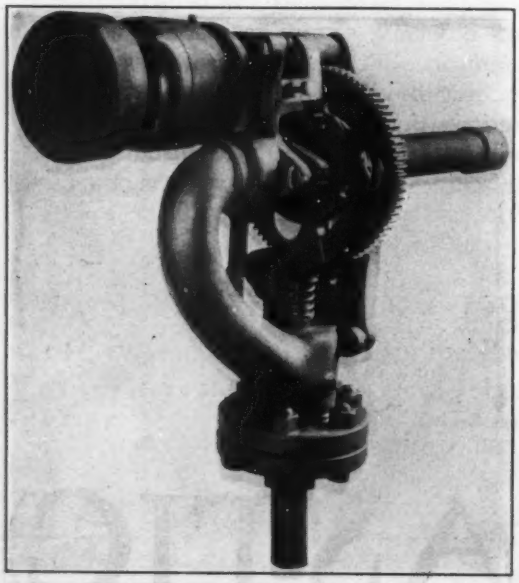
Steam cost per year (300 days at 30c per M lbs.)	$ 234.00
Labor cost per year (300 days at 65c per hr.)	147.00
Depreciation and maintenance at 15% of material cost or $2,505.00	376.00
Interest on total investment at 6% on $3,106.00 (material cost plus labor of installation)	186.00
	$ 945.00

Diamond Power Specialty Corp.

The second table lists the itemized cleaning costs on four 600-horsepower boilers in a plant situated in one of the central states and in this instance the savings resulting from mechanical soot blower cleaning are more substantial than in the case just cited and the return on the investment is at the rate of about 59 per cent annually, despite the fact that the boilers are in service only 210 days a year. On full time operation, it is believed that the net annual savings would be augmented by about $875.00. Such increased savings would boost the return on the investment to better than 77 per cent per annum.

TABLE II
COMPARATIVE CLEANING COSTS
HAND-LANCE AND MECHANICAL SOOT BLOWER CLEANING

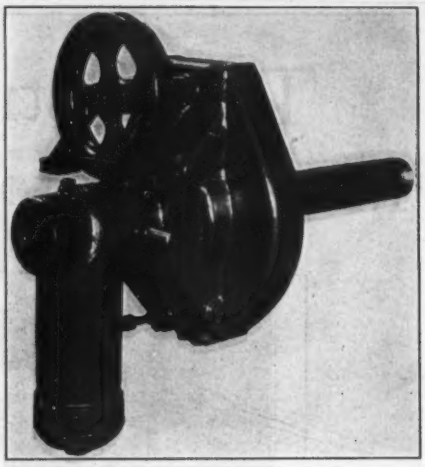
Boilers	Four 600-hp., Mechanical Soot Blowers	Stirling Hand Lances
Annual Soot Blowing Cost (210 days per year)		
Equipment:		
Depreciation		
On installed cost less cost of elements ($3,954.00, 15-year life)	$263.60	
On steam line for hand lances ($56.00, 20-year life)		$2.80
Average interest at 6%		
16/15 × $3,954.00 × .06/2	126.53	
21/20 × $56.00 × .06/2		1.70



Courtesy. Diamond Power Specialty Corp.

FIG. 4

Motor driven soot blower head for steam cleaning



Courtesy: Diamond Power Specialty Corp.

FIG. 5

Modern, hand operated soot blower head for air cleaning

Maintenance and Repairs:		
Replacement of elements after 3 years average use—7/36 × $211.25 × 4	164.31	
General maintenance and repairs	135.00	
Replacement of hand lance hose		20.00
Total annual charges	$689.44	$24.56
Steam:		
Boilers operated 630 8-hr. shifts per year. One 2-minute blow per boiler per shift—		
Two 30-min. lancings per boiler per shift—		
(2 × 4 × 630 × 147 lbs. × $0.35/M lbs.)	246.96	
(2 × 30 × 630 × 4 × 27.8 lb. × $0.35/M lb.)		1,471.18
Total steam and equipment cost	$936.40	$1,495.74
Labor:		
Soot blowers operated by fireman, no extra men required	.....	.....
One extra man required per shift, 210 days × $10.80		2,268.00
Total (210 days, 4 boilers)	$936.40	$3,763.74
Savings:		
By difference ($3,763.74 — $936.40)		$2,827.34
Total installed cost with elements		4,800.00
Return on investment ($2,827.34/$4,800.00)		59%

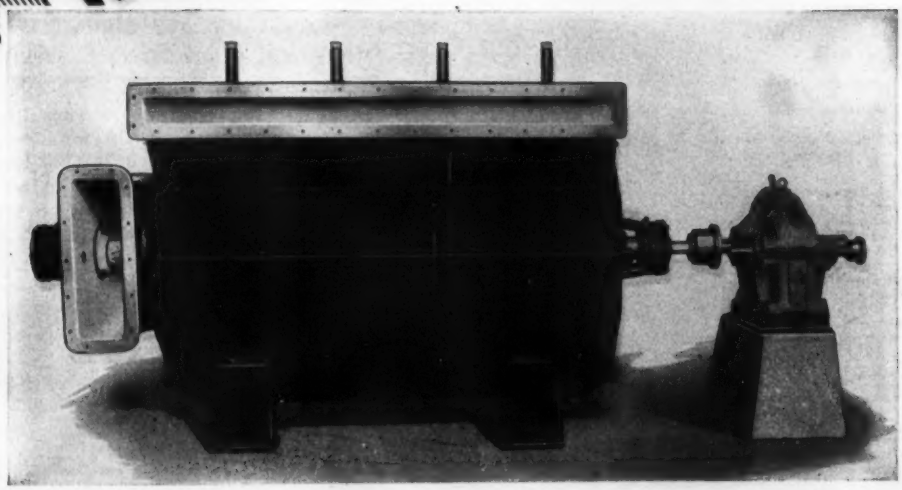
Diamond Power Specialty Corp.

In another large plant, operating a considerable number of boilers of from 500 to 1,500 horsepower rated capacity, careful tests were conducted upon two 1,500-horsepower stoker fired units to ascertain the relative costs of mechanical and hand-lance soot removal methods. These particular boilers, identical as to construction and equipment, are used to supply power and process steam and are on the line 320 days a year, delivering steam at 175 pounds pressure with a superheat of 140 degrees Fahrenheit.

Preparatory to conducting the tests, the boiler were thoroughly cleaned and then operated for the better part of two days without further cleaning. The soot blower equipment was then started on one of the boilers, each of the twenty-two blower elements being operated for 30 seconds, and in a little over 11 minutes the flue gas temperature, an indication of the cleanliness of the boiler, dropped from 550 to 495 degrees Fahrenheit, a change of 55 degrees, effecting a betterment in boiler efficiency of approximately 10 per cent. At the same time, two men were set to work with a hand-lance on the other dirty boiler and after 75 minutes of arduous labor succeeded in lowering the flue gas temperature from 555 to 545 degrees, a change of 10 degrees, but no farther. Such a drop in flue gas temperature is reflected by an improvement in effectiveness of boiler operations of 1.8%.

The cleaning methods were then interchanged, the hand-lance crew attacking the boiler which had been cleaned with the mechanical soot blower equipment and being unable to pull its flue gas temperature below the 495 degrees attained in the 11 minutes of mechanical blowing. In the case of the other boiler, less than 15 minutes of mechanical blowing brought the flue gas temperature from 545 degrees, where the hand-lancers left it, to 500 degrees,

The Rotary Principle Was Always Right Now The Machine Is Right



WHEN you think of a rotary screen, you undoubtedly recall unpleasant experiences of trying to screen pulp clean with perforated plates in the older type rotary screens. You could not do it, nor could anyone else. Hence, the existing skepticism toward that type of screen.

However, you will readily admit, that the rotary principle of screening is right because of less maintenance . . . . less floor space . . . . less noise and vibration . . . . the elimination of overflow and leakage . . . . and more screening capacity in much less space.

But the Valley-Thune Rotary Screen has proved its superiority in practice as well as theory. It gives you all the above advantages—plus the important one that has heretofore been lacking—*clean pulp*. By using special slotted plates, installations are screening pulp comparable with flat screens in cleanliness.

Specific operation facts regarding the results which this improved screen is accomplishing over old methods can be had by writing the Valley Iron Works Co., Appleton, Wisconsin. Write for these facts and judge for yourself.

VALLEY

Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Mfg. & Sales Div.: Smith & Valley Iron Works Co., Portland, Ore.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

each of the 22 elements functioning on a 30 second schedule.

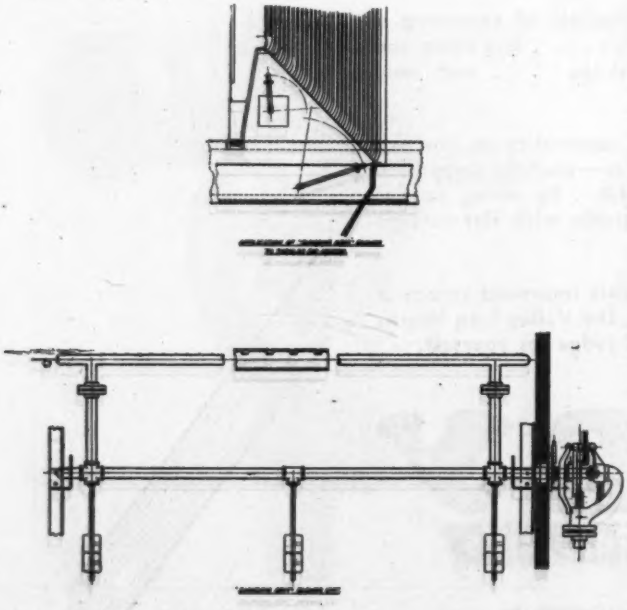
TABLE III

COMPARATIVE CLEANING COSTS

HAND-LANCE AND MECHANICAL SOOT BLOWER CLEANING

Boiler		1,500-hp. water tube
MECHANICAL SOOT BLOWER CLEANING		
Annual Equipment Costs		
Fixed Charges:		
Depreciation on total installed cost, $4,707.00, 20-year life	$235.35	
Average interest at 6% 21/20 × $4,707.00 × .06/2)	148.27	
		$383.62
Maintenance and Repairs:		
Element replacements, 22 elements at $57.50 installed; 3 replacements per 20-year life ($57.50 × 22 × 3/20)	$189.75	
General repairs (allowance for lubrication and for regrinding valves)	260.00	
		449.75
Direct Operating Charges		
Steam:		
Three 15-min. blows daily at 170 lb./min. (3 × 15 × 170 × 320 days × $.30/M lb.)		734.40
Labor:		
1 hour per day at $.55 × 320 days		176.00
Total annual soot removal costs per boiler		$1,743.77
Total annual soot removal costs per rated boiler horsepower ($1,743.77/1,500)		1.16 cts.
HAND-LANCE CLEANING		
Annual Equipment Costs		
Fixed Charges:		
Negligible		
Maintenance and Repairs:		
Steam hose, one 50-ft. section replaced 4 times annually—(4 × 50 × $.80)		$160.00
Direct Operating Charges		
Steam:		
5,798 lb./day at $.30/M lb. (5,793 × 320 × .30)		556.42
Labor:		
Two men for 3 hours per day at $.47 per hour (2 × 5 × 320 × .47)		1,504.00
Total annual soot removal cost per boiler		$2,220.42
Total annual soot removal costs per rated boiler horsepower ($2,220.42/1,500)		1.48 cts.
SAVINGS EFFECTED BY MECHANICAL SOOT BLOWERS		
In Direct Soot Blowing Cost		
Annual cost with hand-lance cleaning	$2,220.42	
Annual cost with mechanical cleaning	1,743.77	
Net Annual Saving—(21.5%)		$476.65
In Fuel, Due to Reduction of Heat Loss in Flue Gases		
Approx. 2% (by test) of 30,720 tons at $3.10 per ton		1,904.64
Total net annual saving		$2,381.29
Net annual return on investment		50.6%

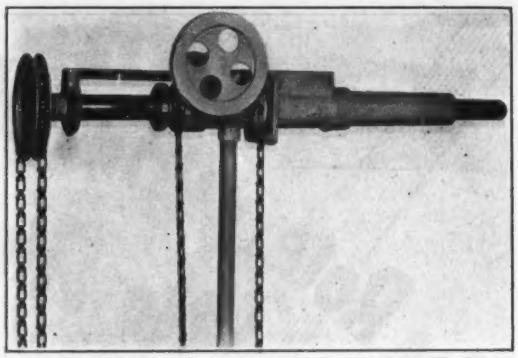
Diamond Power Specialty Corp.



Courtesy: Diamond Power Specialty Corp.

FIG. 7

Mechanical soot blower for cleaning air preheater



Courtesy: Diamond Power Specialty Corp.

FIG. 6

Mechanical soot blower element for radiant type superheater

Based upon such showings, the statistics and service records given in the third table were compiled, forcibly demonstrating the superiority of the mechanical blowers and the quite considerable savings their use effects. A net direct saving in soot blowing costs of $476.65 per boiler per year, a reduction of 21.5 per cent, is realized, which alone is sufficient to repay the entire investment in the mechanical soot blowers at least twice during their anticipated useful life of twenty years.

In addition, it is quite apparent that a considerable fuel saving is realized by the more thorough cleaning secured through the use of the mechanical blowers, a betterment in reduction of flue gas temperatures, with substantially constant carbon dioxide content, of about 45 degrees having been attained during the tests. This is indicative of a fuel saving of about 2 per cent, which during the year would mean a conservation of coal per boiler of $1,904.64, making the total net savings per boiler per year, due to the use of mechanical blowers, a matter of $2,381.29. Such a saving represents an annual return of 50.6 per cent on the total investment entailed for the cleaning system.

Cleaning Fuel Economizers

One particular cleaning task for which the modern mechanical soot blower has well demonstrated its superiority and economy is in the very essential one of freeing fuel economizers from accumulations of soot. The customary procedure at one time was to wash out the economizers with water, but this aggravated corrosive deterioration and was generally discontinued in favor of using scrapers for the work. The upkeep of such tools has proved excessive, however, and the cleaning is done now more and more with economizer soot blowers. In this connection, the last table is most pertinent, listing as it does carefully compiled repair costs for economizer soot cleaners of both the scraper and mechanical soot blower varieties. The registered figures are the records of a single large boiler plant, but even so the maintenance expenses so very decidedly favor mechanical blower cleaning that it is quite evident that the practice of incorporating soot blower elements in most modern fuel economizers is a distinct advance in the reclamation of flue heat.

TABLE IV

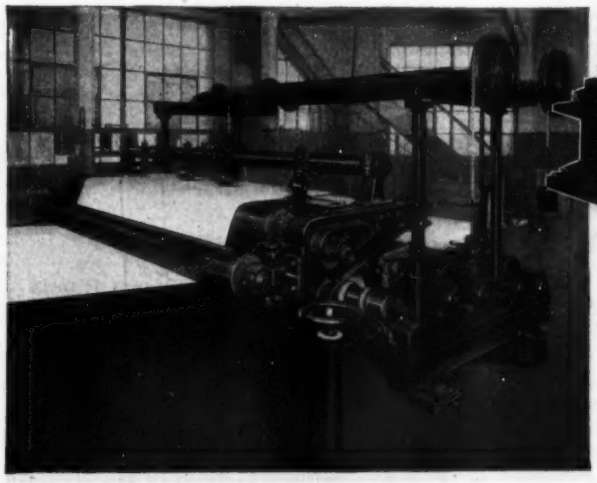
COST OF REPAIRS TO ECONOMIZER SOOT CLEANERS

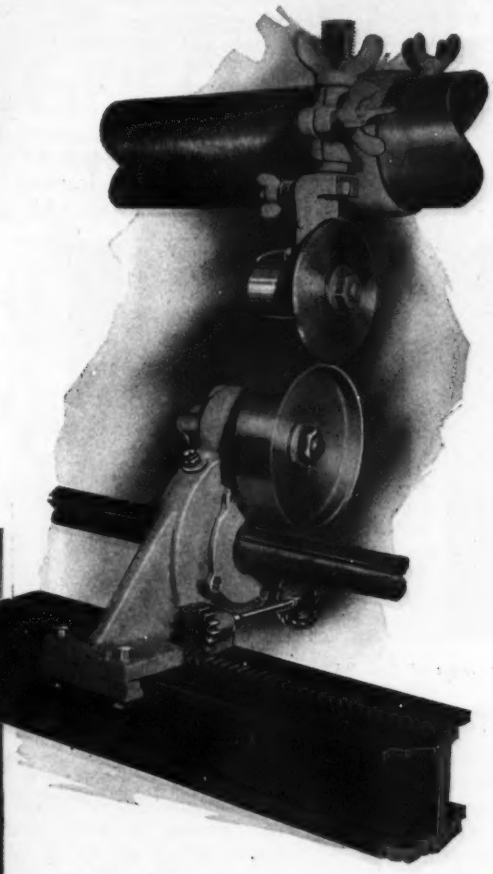
Number of economizers	Total number of tubes	Total heating surface	Yearly repair costs	Cost per tube	Cost per sq. ft.
SCRAPERS					
4	1,440	18,360	$ 604.00	$41.87	3.29 cts.
6	2,240	28,560	261.00	9.31	1.65
16	....	128,000	6,502.00	.....	5.08
Average				$23.50	4.23 cts.
SOOT BLOWERS					
12	5,760	93.000	$ 132.00	2.29	0.14 ct.
16	....	128,000	1,126.00	...	0.88
Average				2.29	0.57 ct.

Diamond Power Specialty Corp.

It's easy to keep these Slitter Blades SHARP!

Take them off any time, just by undoing the one large nut that holds each blade on its shaft. Put on spare blades, and start going. Less than a minute per slitter is required.





M. & W. Ball Bearing Slitter Part in mill of Standard Paper Mfg. Co., Richmond, Va.

Full particulars of the new M & W Ball Bearing Slitter Part are given in the book on Four Drum Winders, published last June. Shall we send you a copy?

COMPARE that quick procedure with the one necessary with bottom blades threaded directly on the shaft. With blades instantly removable for resharpening, there's no temptation to leave them on until the paper tears. At the first sign of slitter cracks, the operator simply changes the blades and goes ahead.

Blade wabble—nicked blades—tears due to binding of the top blade—are all eliminated. The ball bearing blade shafts run true, and the top blade always spins freely. Any blade may be changed independently of all the others.

In the business revival that's ahead, let your Slitter Part be an asset—not a hindrance.

THE MOORE & WHITE COMPANY

Established 1885

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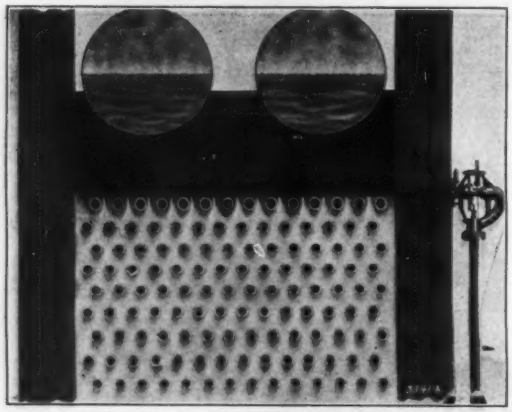
There are numerous other specific services in which mechanical soot blowers have demonstrated their superiority over other cleaning devices and systems and there is much which could be said in regard to the advance made in the construction, control and operation of these modern soot removing tools. The merits of different ways of controlling the blowing arc, the opening and closing of valves, the respective advantages of one-way and oscillating type blowers, advance in materials of construction, etc., but it is felt that the service records presented should suffice to show that mechanical soot blowers are virtually essential in modern boiler cleaning, especially where boilers are operated at



Courtesy: Diamond Power Specialty Corp.

FIG. 8

Installation view of modern mechanical soot blower element in water tube boiler, showing blower jets spaced between tubes.

high ratings and are provided with heat reclaiming devices for the salvaging of flue heat.

A score of years ago, the installation of mechanical soot blowers was comparatively rare. During the world war, the United States Fuel Administration urged their use with all boilers, in the interests of national fuel conservation. Today, no truly progressive boiler plant management fails to insist upon their use. Nevertheless, sufficient consideration is not commonly given to the question of keeping the boiler cleaning facilities and schedules up-to-date and many mills can still very profitably investigate their boiler cleaning requirements.

Benjamin F. Reist Ends Life

DAYTON, Ohio, October 13, 1930.—News received here the latter part of last week was to the effect that Benjamin F. Reist, former popular paper salesman of Dayton, had ended his life at Catawissa, Pa., by shooting himself in the heart, during a spell of despondency over ill health and advancing age.

Mr. Reist during the height of his success and popularity was a salesman for the Mead Paper Company of this city and was a familiar figure here many years ago when the company's main plant was located on Front street in the Eastern section of the city, which now is the scene of the International Envelope Corporation's activities.

Reist had a wide acquaintance throughout the United States which he traversed in the interest of his company, which was even at that time one of the best-known paper manufacturing firms in the country. He accumulated friends from year to year and it must be an isolated section of the trade, indeed, which has not heard of Mr. Reist. When traveling in Europe he frequently was mistaken for Woodrow Wilson, so striking was the resemblance between the men. In later years his business interests were chiefly in New York and abroad.

Mr. Reist is survived by his brother, Larry Reist of this city, and his nephew, Walter Reist. Funeral services were conducted privately in Catawissa Friday afternoon.

John J. Sullivan Dead

HOLYOKE, Mass., October 10, 1930—John J. Sullivan, formerly superintendent of the Holyoke Paper Company, and regarded as one of the most expert papermakers in America, died last evening at Bangor, Me. He was 70 years old, and since July has been in failing health. He was in Holyoke early that month visiting his two sons here, John J., Jr., and William E., and on his return journey to Bangor was taken ill.

Mr. Sullivan was born in Turners Falls and learned his lifes trade at the Powers Paper Company, which was located in Holyoke at that time. Soon afterwards he went to the Carew Manufacturing Company, at South Hadley Falls, and was promoted to superintendent. From there he changed to the Palmer & Porter paper mill in Unionville, Conn., and in 1899 returned to Holyoke to take charge of the Holyoke Paper Company, then a unit of the American Writing Paper Company.

In 1907, Mr. Sullivan moved to Bangor where he was general superintendent of the Eastern Manufacturing Company. Ten years later he resigned from that position; and since then he has been acting in a advisory capacity to many of the great paper mills of the east and west.

Mr. Sullivan was one of the founders of the Holyoke Country Club, and was a charter member of the Holyoke Knights of Columbus. In Bangor, he joined the Elks.

He is survived by six children; John J., Jr., of this city, who is salesman for the Groveton Paper Company; William E., who is connected with the Holyoke office of the American Writing Paper Company, Inc.; Mrs. P. C. Savage of Bangor, Me.; Philip T., of Vicksburg, Miss., who is associated with the Lee Paper Company, and the Misses Mary C., and Pauline M. Sullivan of New York. There are five grandchildren.

It so happens that three sons of Mr. Sullivan followed their father in the paper industry.

Richard Gray Returns from Russia

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., October 11, 1930.—Richard Gray, master mechanic of the Bagley & Sewall Company, has returned from a business trip to Belahkna, Russia, in the interests of that firm. He was sent to that country in July of last year to supervise the erection of a huge paper machine built at the local plant for the Volga Paper Company and the installation was completed only recently. He was accompanied to Russia by a corps of skilled workmen who assisted in the setting up process. The Bagley & Sewall Company has construction work well under way on another large machine for the Soviet Government and it is expected that it will be ready for shipment within a few weeks. For some time past a delegation of engineers from Russia have been in this city and vicinity studying the methods used and it is understood that these men will direct the installation of the new machine in that country.

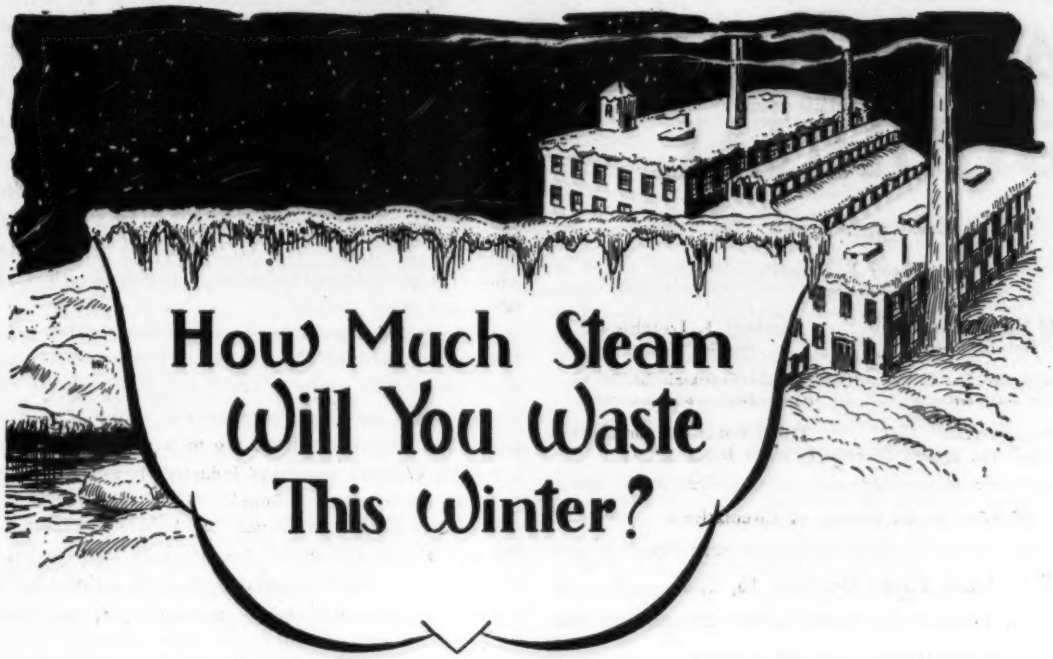
L. C. Reynolds To Address Cost Men

L. C. Reynolds, comptroller of the American Writing Paper Company, will address the opening meeting of the Connecticut Valley Cost Division of the American Paper and Pulp Association, on Wednesday, October 29. His subject will be "The Foundation for Operation of Modern Management Methods."

Mr. Reynolds was specially requested to give this address before the accountants and as it is a subject of particular interest, a good attendance is assured.

The meeting will be held at the Nonotuck Hotel, Holyoke, where dinner will be served at 6:30 P. M., on Wednesday, October 29.

All those desiring reservations should communicate with Paul A. Wilks, secretary of the Connecticut Valley Cost Division, Strathmore Paper Company, West Springfield, Mass.



How Much Steam Will You Waste This Winter?

The Extent Of This Waste

Will Be Reflected In Operating Costs!

In too many mills, the extra Winter quantity of steam is supplied without any attempt to determine where it goes or what it does. In such mills, half or less of the amount regularly consumed would accomplish the purpose desired if properly directed and fully utilized. At the prevailing cost of steam, no mill can afford to neglect this waste.

The extent of the saving made possible through scientific methods of heating and ventilating is apparent in the fact that in hundreds of leading mills, the steam required in Winter weather is little more than is required during summer weather. And the advantages of this condition are available to practically all mills.

Give us an opportunity to analyze the situation in your mill. If alteration of your present system is not justified, our engineers will be frank in telling you so.

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DETERIORATION OF PAPER

A summarization of the activities of the Bureau of Standards relative to the causes of paper deterioration, which has recently been published by the bureau, shows that practically all phases of the problem are being touched upon one way or another.

Considerable progress has been made in measuring the permanence qualities of the current paper-making raw materials and papers. The tests used for this purpose are based primarily on consideration of paper as a cellulose material. Apparently a high degree of cellulose purity, with a minimum of active chemical components, and sufficient strength for the intended use, are the prime requirements in paper for resistance to deterioration. The tests show that commercial papers are available, made from both rag fibers and wood fibers, which meet such requirements satisfactorily. Systematic collection and testing of old publications has also shown the importance of cellulosic purity as the papers composed of fibers refined by chemical treatment are generally in good condition, while those containing crude fibers, such as ground wood, are generally badly deteriorated.

Through surveys of library storage conditions, acid pollution of the atmosphere, light, high temperature, dampness, and dust are indicated as the leading external deteriorating influences. The effects of light and of atmospheric components on paper and paper-making materials are undergoing further study in the laboratory.

Studies of the relation of the various paper-making materials to permanence qualities of paper are being made in a practical way by paper-making trials in the bureau paper mill. This work so far has dealt largely with wood fibers having a high degree of cellulosic purity and these have given very satisfactory test values. Studies of paper sizing materials have shown the desirability of limiting as far as possible the amounts of alum and rosin used in rosing sizing the papers. On the contrary, glue and starch used for surface sizing the papers appear to give them added protection against chemical deterioration.

The improvement and standardization of test methods used for determination of alpha cellulose, copper number, and acidity, all of which appear to have an important bearing on permanency, are receiving attention and progress in this direction is reported.

FARM USE FOR PAPER

The farmer is a large user of paper—not only as a medium for determining his profits and losses, but in his production and marketing program. This is particularly true in the West, where the growing and shipping of perishable fruits and vegetables is a major activity.

Last year, California alone moved over 200,000 carloads of fruits and vegetables which required paper in packing varying from simple fruit wraps to heavy board shoulders for the protection of the pack. A large portion of this great volume of perishables also required the use of paper in production.

In the Western vegetable industry, however, the most interesting use of paper is found. The tremendous expansion of this activity in the past decade has been a spectacular page in the agricultural history of America and, incidentally, the development of a mighty profitable phase of business for Western paper merchants and paper manufacturers throughout the country.

In the field, paper is used for the protection and forcing of young plants, particularly melons in the Imperial Valley and other early centers. Plant protectors vary from simple squares of waxed or glassine paper 16 by 18 inches in dimension, to the tricky pressed paper cones, or "Hotkaps," a patented product put out by a seed company in Los Angeles. The squares are placed over the shallow seed bed, supported by wires bent to form a frame, then the edges covered with soil to hold them in place. Hotkaps are set over the seed bed with a special equipment.

Last year, 21,000 acres of melons were covered in the Imperial Valley alone, calling for a tremendous volume of paper, as each acre covered requires 3,000 square feet.

Celery growers in some sections are also using paper for blanching. This is particularly true in the Venice area around Los Angeles where approximately 1,000 carloads of celery are produced each year.

The largest consumption of paper in the vegetable industry, however, is in crate liners and packing material. Sanitation, together with a means of holding the temperature created by ice placed in the containers, is the objective of this crate liner, which brings into use both waxed and parchment papers. All of the lettuce and carrots and a large volume of the peas and celery shipped from California are packed in containers lined with these papers.

Last year, California and Arizona lettuce shipments totalled around 45,000 cars or four and a half million crates. Each of these crates required 15 square feet of waxed or parchment paper. Carrot shipments, while not equal to letuce, totalled approximately 6,500 cars, bringing into use an appreciable volume in addition to that required for lettuce.

An enterprising statistician once developed the fact that crate liners used by lettuce and carrot growers in California and Arizona would cover an area of between eight and nine miles square!

To Improve the Kraft Situation

The Kraft Paper situation shows signs of decided improvement, according to Major Oliver M. Porter, manager of the National Kraft Paper Manufacturers Association. The industry has stiffened its backbone and gotten back its nerve. It has quit listening to loose talk, and unwarranted pessimism, and has decided to run its business with the dignity and stamina that its importance warrants.

The industry has been having growing pains. And growing pains in a business whose manufacturing plants are spread from coast to coast, and whose production runs over 3,000 tons per day, can cause very sizeable trouble for both the manufacturer, and the paper merchant whose business is a business and not a gamble.

The industry has had quick changes and rapid growth, too rapid for proper adjustment. Neither the manufacturers nor the merchants have been able to keep step with the changing conditions. This has caused bewilderment, distress and an "every man for himself" attitude that has promoted unwise practices and destructive competitive conditions which were harmful alike to merchant and manufacturer.

Things had gone from bad to worse, until the apparently demoralized manufacturers suddenly pulled themselves together, realized that their troubles were over rated and overdrawn, and turned squarely around to fight for the betterment of their industry and its economic stabilization.

The National Kraft Paper Manufacturers Association and the Southern Kraft Manufacturers Association, on Tuesday afternoon, October 7, unanimously decided to place before a representative committee of the industry, all of the troublesome questions now vexing it, and to inaugurate policies which would bring about sound progress and stability, throughout the entire industry.

They also recognized the necessity for the absolute discontinuance of the practices of giving special discounts of any kind to anybody, of granting protection, and of accepting blanket orders.

This is bound to have an immediate stiffening and stabilizing effect on the market, which will be further strengthened and enhanced by the work of the committee of prominent executives who have been invited to study the problems of the industry, under the temporary chairmanship of D. C. Everest, with the view of working out a practical program which will be acceptable to all groups in the industry, and which will bring relief from the evils which trouble it.

Pulp Sales Slow in Sweden

WASHINGTON, D. C., October 14.—Pulp sales continue rather slow in Sweden according to a report from Commercial Attache Lund, at Oslo. Quite a number of the sulphate mills have been on reduced production during the summer, and several have been completely shut down for a period of two weeks or more. Stability is lacking, both in prices and production. Mechanical groundwood shipments are considerably above, but chemical pulp shipments are below last year. The paper market continues dull, with no improvement expected in the immediate future. Exports are below last year, although they have been well maintained considering that sixteen of the Swedish mills were idle for a period of two and one half months because of a strike. Quite a substantial increase is to be noted in the exports of the better grades of printing, writing and tissue papers.

To Proceed With Improvements at Salem

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., October 11, 1930.—The Oregon Pulp and Paper company, Salem, will now proceed with its warehouse and other improvements, plans for which have been held up through controvery as to whether the city would vacate Trade street for this purpose. After several months of waiting the city council voted to sanction this vacation at a meeting held the first of the month.

Pulp and Paper Production for August

According to identical mill reports to the Statistical Department of the American Paper and Pulp Association from members and cooperating organizations, the daily average paper production in August showed practically no change over July, 1930, and a decrease of 15 per cent under August, 1929. The daily average wood pulp production in August registered practically no change over July, 1930, and a decrease of 10 per cent under August, 1929.

The August production of news print, uncoated book, paper board, wrapping, bag, writing, hanging and building papers registered a decrease under August, 1929, output. The production of all major grades of paper during the 8 month period ending August, 1930, registered decreases under the totals for the same period of 1929. Shipments of all major grades, excepting hanging paper, also registered decreases during the 8 months period of 1930 as compared with the same period of 1929.

Inventory increases over the July level were registered by the following grades: News print, paper board, wrapping, writing and hanging. As compared with August, 1929, increases in inventory were reported in the following grades: News print, book, writing, tissue and hanging.

Identical pulp mill reports for the 8 month period ending August, 1930, indicated that 7 per cent more Mitscherlich sulphite pulp and 1 per cent more kraft pulp was consumed by reporting mills than for the same period of 1929. The total shipments to outside markets of all grades of pulp during the first 8 months of 1930 were approximately 7 per cent below the total for the same period of 1929.

All grades of pulp, excepting bleached sulphite and Mitscherlich sulphite, registered a decrease in inventory at the end of August as compared with the end of July, 1930. As compared with August, 1929, ground wood and soda pulps were the only grades whose inventories registered decreases. The tonnage increase in the other grades, however, was not large.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF AUGUST, 1930

Grade	Production Tons	Shipments Tons	Stocks on Hand End of Month—Tons
News print	101,601	99,236	30,691
Book (Uncoated)	68,008	68,862	61,985
Paperboard	177,554	176,529	59,047
Wrapping	44,161	42,565	43,291
Bag	12,072	12,310	4,775
Writing, etc.	25,293	24,658	52,419
Tissue	14,273	14,329	12,802
Hanging	4,002	3,591	6,273
Building	4,944	5,669	3,025
Other Grades	17,788	18,529	15,496
Total—All Grades	469,696	466,278	289,804

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF AUGUST, 1930

Grade	Production tons	Used during month tons	Shipped during month tons	Stocks on hand end of month tons
Ground wood	63,632	72,956	3,020	80,641
Sulphite news grade	31,869	28,063	4,018	7,585
Sulphite bleached	23,771	20,013	3,564	4,369
Sulphite easy bleaching	2,736	2,429	332	1,063
Sulphite Mitscherlich	6,979	6,012	667	1,865
Kraft pulp	30,666	22,732	8,403	6,745
Soda pulp	19,423	12,430	7,154	3,279
Pulp—other grades	94	.....	87	19
Total—all grades	179,170	164,635	27,245	105,566

Richvale Mill To Start in January

[FROM OUR REGULAR CORRESPONDENT]

RICHVALE, Cal., October 11, 1930.—The spur track for the Pacific Coast Pulp and Paper Company's plant at Richvale is being laid, and work on the steel construction of the building will be started as soon as the rails are placed.

The foundation for the building has been completed and workmen now are excavating for several pits which will be used for tanks and other equipment.

Company officials hope to have the plant completed to such an extent that pulp production may be started in January and paper production in February. The company holds orders for both pulp and paper.

STRONGER THAN STONE OR STEEL

are the foundations of Mathieson's Leadership

By CARL R. MILLER

No. 5 in a series of advertisements describing the position of The Mathieson Alkali Works in the chemical industry

AMONG leading American chemical manufacturers, none has shown more resourcefulness in meeting industry's changing needs... in predetermining future trends in product improvement ...than the Mathieson organization.

It is a well known fact that Mathieson was the first chemical manufacturer to introduce the standard multi-unit tank car, thereby rendering chlorine shipments safer and more economical. Mathieson was a leader in establishing a completely modern plant for manufacturing synthetic ammonia. Purite, fused soda ash, and H T H, high-test hypochlorite, were developed by Mathieson chemists and engineers... modern contributions of a thoroughly modern organization founded on strong foundations of Resources, Research, Service.

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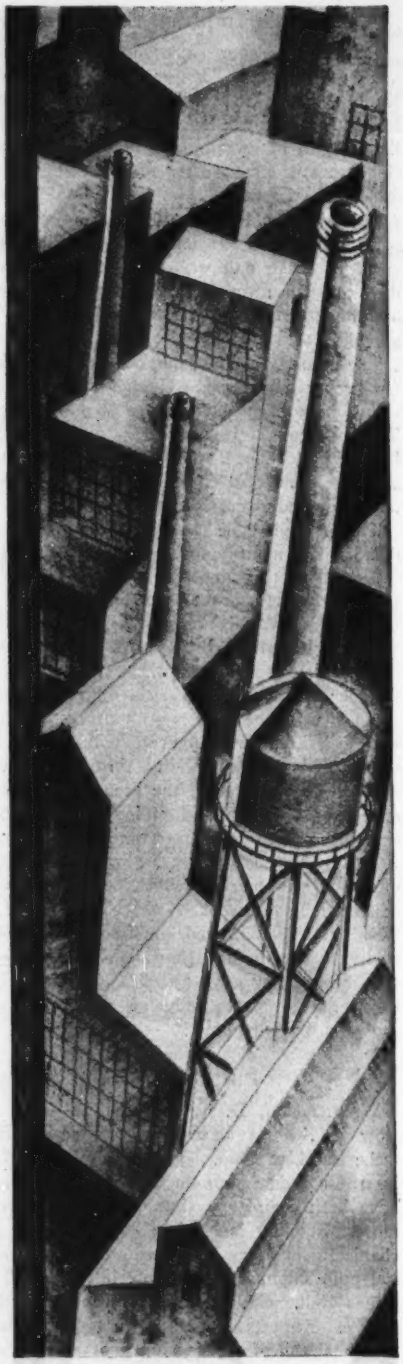

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RESOURCES | RESEARCH
Great Structures Rest on Strong Foundations

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

A Modification of the Method For the Differentiation of Bleached and Unbleached Fibers

By Frank R. Filz[1]

In making routine determinations between bleached and unbleached fibers considerable time is involved in the conventional Bright method inasmuch as it is necessary to heat the various solutions, stain for a specified time, and make up solution "C" fresh each time that it is needed.

The present modification is essentially one of technique although a slight change has been made in the preparation of solution "C" whereby the necessity of making up this solution fresh each time that it is needed is eliminated. This method is not intended to replace the original method but is being presented in the hope that it may prove of use in making numerous routine determinations where absolute accuracy is not essential.

Solutions "A" and "B" are made up in the usual manner, viz.,

(A)—N/10 $FeCl_3$ (Dissolve 2.7 gms. $FeCl_3.6H_2O$ in 100 mls. dist. H_2O).
(B)—N/10 $K_3Fe(CN)_6$ (Dissolve 3.29 gms. of this salt in 100 mls. dist. H_2O)

Solution "C" is made up as follows: Add 0.5 gm. of benzo purpurine 4B crude to 100 mls. of 50 per cent ethyl alcohol, agitate for a few moments and allow the insoluble matter to settle. Pour off the supernatant liquid which is ready for use immediately. This solution will keep indefinitely. (The solution appears to be of a colloidal nature, the benzo purpurine existing in a highly dispersed form.)

Technique

The sample to be tested is disintegrated in the usual manner and a suspension of fibers of it are shaken up in a test tube. A drop of the fibers is taken up with a dissecting needle, placed upon a slide and excess moisture blotted up with a hard blotter. 0.5 ml. solution "A" and 0.5 ml. of solution "B" are mixed on a watch glass and a drop of the mixture placed upon the fibers. The fibers are then teased with a dissecting needle for a minute or two to insure even staining. Excess stain is blotted up, a drop of distilled water placed upon the fibers to remove excess stain and again blotted. A drop of solution "C" is now added, the fibers are teased as before but allowing a somewhat longer time for staining (from two to three minutes will do) excess stain blotted, a drop of distilled water added to wash off excess stain, blotted, and finally the fibers mounted in a drop of distilled water under a cover glass.

Staining is carried out at room temperature. Using this modification the unbleached fibers are stained the usual color (blue) while the bleached fibers are stained a delicate pink instead of a bright red.

This method has been employed by the author for the past two years and has been found to be accurate enough for all ordinary purposes. The time required for a determination is about ten minutes.

[1] Junior member TAPPI, chief chemist, Geo. W. Wheelwright Paper Co., Leominster, Mass.

New General Water Treatment $4,000,000 Firm

Organization of the General Water Treatment Corporation under Delaware laws as a holding company to merge the interests of The Permutit Company, New York, and the Ward-Love Pump Corporation, Chicago, both specialists in equipment for the softening and purification of water, as well as in allied chemical and mechanical lines, is announced in a letter to stockholders of The Permutit Company from W. Spencer Robertson, president.

The companies in the merger have combined assets of more than $4,000,000. Mr. Robertson will be president of the corporation and Francis N. Bard, president of the Ward-Love Pump Corporation, will be chairman of the board of directors. Other board members will be Vincent Bendix, Harry M. Durning, William M. Flook and Kenneth B. Schley.

The Permutit Company was the pioneer in the zeolite water softening industry in this country and is the owner of valuable basic patents covering the apparatus and the zeolites used in this process under which it has granted licenses both here and abroad. Its plants are located at Brooklyn, New York, and Birmingham, New Jersey, at which latter place it also has large deposits of natural zeolites. In addition to its executive offices in New York City it has twenty-three sales offices strategically located throughout the United States. The Ward-Love Pump Corporation has two plants located at Rockford, Ill., its executive offices being located at Chicago, Ill., and enjoys unusual facilities for the distribution of its products through the Crane Company, manufacturers and distributors of plumbing supplies, with over one hundred branches in the United States.

Installations of water-softening apparatus in the United States are proceeding at the rate of 25,000 units yearly, according to Mr. Robertson. Mergers in the industry have been frequent, The Permutit Company in recent years having acquired water-softening interests from the Kennecott Company, Borromite Company, Wayne Tank and Pump Company, and Paige & Jones Chemical Company.

Pulping Eastern Hemlock By Sulphite Process *

II The Effect of Different Types of Temperature Curves

By W. H. Monsson[1] and C. H. Chidester[2]

A previous report[3] covered experiments that showed the effect of varying the time and the temperature of acid penetration, prior to reaching "pressure," in the pulping of eastern hemlock (Tauga canadensis) by the sulphite process. The present report describes experiments with the same species in which several types of temperature curves, or schedules, have been used. The total effect of each schedule has been evaluated by measuring and curving up its detail effects on the yield, strength, unbleached color, bleach requirement, and chemical composition of the resulting pulp.

The object of the work was the application to eastern hemlock of the principles of temperature control that have been worked out for spruce by Miller and Swanson[4 5] of the Forest Products Laboratory. Hemlock is used extensively for sulphite pulp and is still a plentiful and relatively cheap pulp wood. It is not, however, so nearly fool proof as spruce and consequently requires more careful handling if a satisfactory pulp is to be produced. Miller and Swanson showed that, in pulping spruce, there is a definite relation between the temperature schedule and the quality of the pulp, and their observations have received ample verification in commercial operation.[6] The present work was undertaken to learn the corresponding relationships for hemlock.

Cooking Conditions

The experimental equipment used and the procedure followed, including the method of operating the experimental sulphite digester and the testing of the pulps, were described in a previous publication.[3]

An acid strength of approximately 5.50 per cent total SO_2, of which 4.20 per cent was "free" and 1.30 per cent "combined," was used throughout. This strength value was selected because it approximates average operating conditions. A more desirable acid would be one of higher "free" SO_2 content because of the resulting thoroughness and rapidity of penetration.

A penetration period of 2½ hours to 115 deg. C. was used in all experiments. This condition was selected to accord with the results previously reported.

The temperature schedules were of the types studied by Miller and Swanson, that is, the so-called "convex," "concave," and "straight-line" rise curves, and were all within the range of cooking time allowed in commercial practice. Fig. 1 shows the "straight-line rise" type schedules and Fig. 2 shows the "convex" and "concave" types.

As in previous experiments the digestion that followed the convex type curve produced an inferior pulp and hence only one was made. On the other hand a number of variations were tried with the "concave" and the "straight-line" type schedules. The variables involved can be classed under two general heads:

1. Variation in maximum temperature, the time from "pressure" to maximum temperature remaining the same.

2. Variation in the total time of cooking, the time from "pressure" to any given maximum temperature remaining the same and the cooking time at the maximum temperature varying.

* Presented at the fall meeting of TAPPI, Erie, Pa., Sept. 3-5, 1930.

[1] Member TAPPI, formerly associate chemist, Forest Products Laboratory, Madison, Wis.

[2] Member TAPPI, associate engineer.

[3] Paper Trade Journal, Nov. 15, 1922.

[4] Paper Trade Journal, April 10, 1924.

[5] Paper Trade Journal, Nov. 25, 1926.

[6] Chidester, Paper Trade Journal, Oct. 11, 1928.

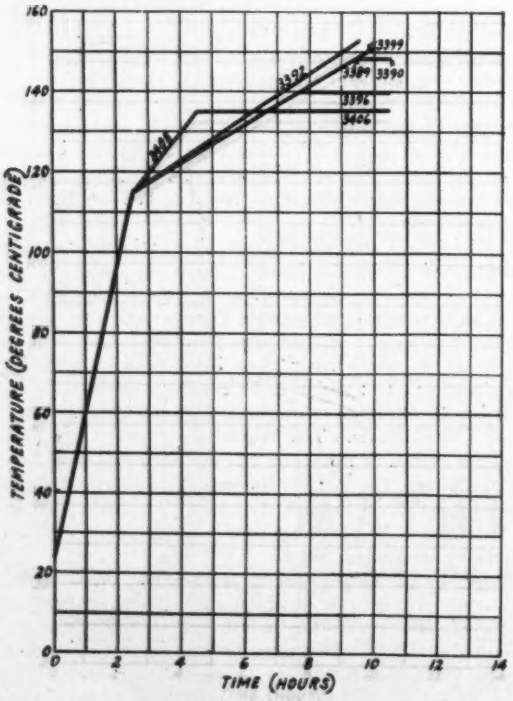

FIG. 1

Straight line types of temperature schedules.

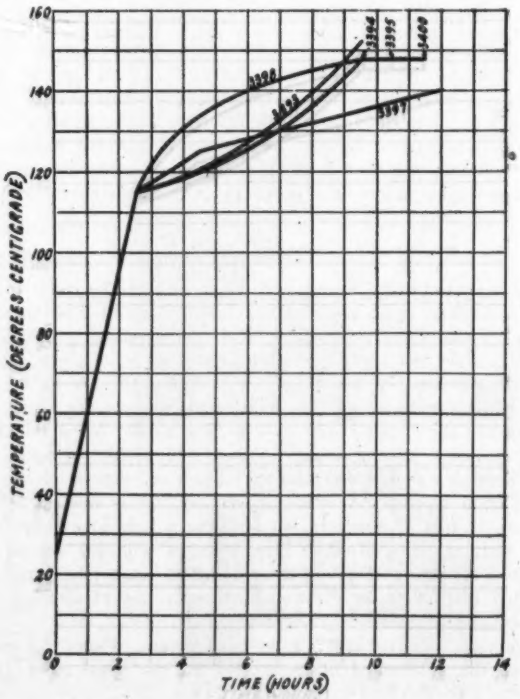

FIG. 2

Convex, concave, and modified straight-line temperature schedules.

Wood Evaluation

The pulp wood used in the study, which was cut in Northern Wisconsin, was evaluated by the method in use at the Forest Products Laboratory.[1] It was identified as eastern hemlock (*Tauga canadensis*). The physical characteristics of the wood are given in Tables 1 and 2, and the chemical analysis in Table 3. These values, which are typical of the species, are similar to those of the wood used in the previous study of the penetration period.[4] The weight per cord oven-dry average 1880 pounds and this value was used in calculating the yields of pulp per cord shown in Table 4.

In comparison with white spruce the lignin content of hemlock is high and the cellulose low. These facts, together with the relatively large amount of bark, account for the comparatively lower yields commonly obtained from hemlock.

Discussion of Results

Data on the cooking conditions used, the yields of pulp obtained, the bleach requirements, and the strength of the pulps are given in Table 4. The same data (excepting cooking conditions) are presented graphically in Fig. 3.

The yields of pulp obtained from hemlock varied from 41.9 per cent to 49.2 per cent by weight and from 788 to 925 pounds per cord, the maximum bursting strength from 0.69 to 1.00 points per pound per ream, and the bleach requirement from 10 per cent to above 30 per cent, according to the conditions.

Effect of Maximum Temperature and of Holding at Maximum Temperature, Using "Straight-Line Rise" Curves

The various modifications of the "straight-line rise" curves that were used are shown in Fig. 1.

Increasing the final temperature from 148 deg. C. to 153 deg. C., the total time remaining the same, resulted in a reduction in the pulp yield and in the strength and bleach requirement of the pulp. This is shown by the comparative data on digestions Nos. 3389 and 3392 in Table 4 and in Figs. 1 and 3.

Continuing the digestion at 148 deg. C. for one hour after reaching that temperature also reduced the pulp yield and the pulp strength but not to the same extent as carrying the digestion to a final temperature of 153 deg. C. The bleach requirement, however, was lower. A comparison of the data for digestions Nos. 3390 and 3392 brings out these points.

When the "straight-line rise" curve was continued from 148 deg. C. to 151 deg. C. (digestion No. 3399), with a half-hour increase in total cooking time, the pulp yield was slightly lower but the strength and the bleach requirement of the pulp were approximately the same as for the shorter time and the lower maximum temperature.

When the maximum temperature was reduced to 140 deg. C., reached in about 8 hours and then held for 2½ hours, the yield and the bursting strength of the pulp were the same as when the maximum temperature of 148 deg. C. was reached in 9½ hours and then held for one hour, but the folding strength and the bleach requirement were both higher. This is shown by a comparison of digestions Nos. 3390 and 3396.

Still further reducing the maximum temperature to 135 deg. C. (reached in 6¼ hours) and holding this value to the end of a 10½ hour pulping period (digestion No. 3406) increased the yield of pulp, the pulp strength, and the bleach requirement over the values for a maximum of 148 deg. C. held for one hour (digestion No. 3390). The bleach requirement for this pulp was also higher than that of the pulp produced by following a curve to a 148 deg. C. maximum and stopping at this temperature with a total time of 9½ hours (digestion No. 3389), but the strengths and the yields of the two pulps were approximately equal.

A rapid rise to 135 deg. C. in 4½ hours, with the holding of this temperature for 6 hours more (digestion No. 3408), reduced the pulp yield below that obtained when the temperature was carried to 148 deg. C. and held one hour, with the same total cooking time, but gave about the same bursting strength values and an increase in folding endurance and bleach requirement.

[1] C. C. Heritage and W. H. Monsson, Paper Trade Journal, Nov. 1, 1928.

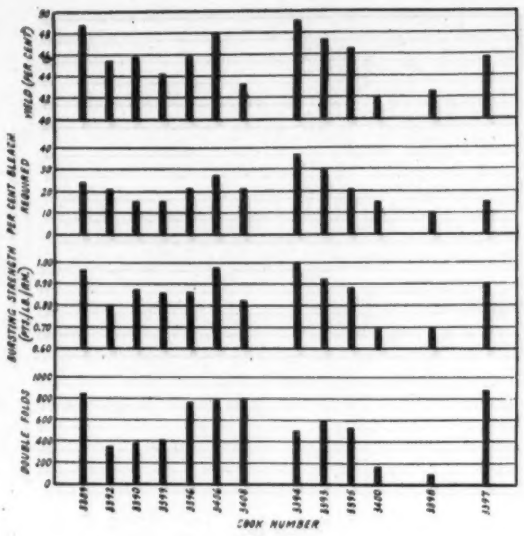

FIG. 3

Yield, strength, and bleach data shown graphically

Effect of Maximum Temperatures and Holding at Maximum Temperature Using "Concave" Type Curves

The various modifications of "concave" and "convex" curves used in the experiments are shown in Fig. 2.

TABLE 1
PHYSICAL CHARACTERISTICS OF EASTERN HEMLOCK PULP WOOD USED IN THE EXPERIMENTAL WORK

Number of pieces in cord, unbarked	73
Number of knotty pieces	37
Number of crooked pieces	19
Weight of cord, unbarked	4930 pounds
Weight of cord, barked	4101 pounds
Weight of cord, barked and oven-dry: weight barked × oven-dry factor	1920 pounds
Weight of cord, barked and oven-dry: solid volume × density	1840 pounds
Average weight of cord, oven-dry	1880 pounds
Solid wood content by water displacement	75.0 cu. ft.
Amount of bark by weight on a peeled-log	20.2 per cent
Amount of bark by volume on a peeled-disk	20.0 per cent
Average specific gravity, weight O. D. volume green	0.393
Average specific gravity, oven-dry	0,438
Average weight per cubic foot, weight O. D. volume green	24.5 pounds
Average moisture in wood as received:	
Unbarked	51.5 per cent
Barked	53.2 per cent
Bark alone	41.4 per cent
Average age	126 years
Average diameter of barked logs	6.9 inches
Maximum diameter of barked logs	10.0 inches
Minimum diameter of barked logs	4.4 inches
Average diameter of disks	7.16 inches
Growth rate in rings per inch	35.1 inches
Average diameter of heartwood	4.86 inches
Proportion of heartwood	52.0 per cent

TABLE 2
WEIGHT OF ¾-INCH EASTERN HEMLOCK CHIPS USED IN THE EXPERIMENTAL WORK.

Wet weight of chips	24.1 pounds
Moisture content	52.6 per cent
Volume of container	1.22 cu. ft.
Weight of wet chips per cubic foot	19.75 pounds
Equivalent weight per cubic foot, oven-dry of wet chips	9.36 pounds

TABLE 3
CHEMICAL ANALYSIS AND COLOR OF EASTERN HEMLOCK USED IN THE EXPERIMENTAL WORK

Lignin	32.65 per cent
Total cellulose	55.2 per cent
Alpha cellulose	40.3 per cent
Solubility in	
1 per cent NaOH	12.4 per cent
Hot water	3.8 per cent
Alcohol and benzol	4.6 per cent
Ether	0.6 per cent
Hydrolysis number	19.2 per cent
Hess-Ives Color Readings	
Heartwood	
Red	58 parts
Green	37 parts
Blue	27 parts
Sapwood	
Red	68 parts
Green	50 parts
Blue	40 parts

[4] Only two digestions were made to show this effect and further experiments in which the temperature is held constant for different maximum temperatures will be necessary to provide definite proof.

TABLE 4.—COOKING CONDITIONS, YIELD, AND PULP CHARACTERISTICS

Cook No.	Weight of chips oven-dry	Acid composition			Time to 115°C	Maximum temperature	Time to maximum temperature	Cooking time	Maximum pressure	Type of temperature curve	Yield of oven-dry pulp				Pebble mill strength tests										Bleach	Color			Chemical analysis of pulps	
															Milling time—minutes														
															20	40	60	80	20	40	60	80	20	40	60	80			
															Bursting strength				Tearing strength				Folding endurance						
	Pounds	Gallons	Total SO_2	Free SO_2	Combined SO_2	Hours	°C	Hours	Hours	Lbs./sq. in.		Total	Screened	Screenings	Total per cord	Pounds			Grams/lb./ream				Double folds				Ratio	Condition of pulp	Red	Green	Blue	Lignin	Cellulose
			Per cent	Per cent	Per cent							Per cent	Per cent	Per cent													Per cent		Ives parts			Per cent	Per cent
3389	75.30	55.0	5.50	4.15	1.35	2.5	148	9.5	9.5	75	SLR	48.75	47.50	1.45	917	0.56	0.83	0.89	0.96	2.27	2.52	2.51	2.67	95	268	369	839	0	Unbleached	70	57	34	2.5	92.4
3390	73.35	55.0	5.50	4.10	1.40	2.5	148	9.5	10.5	75	SLR	45.90	44.60	1.30	863	.53	.66	.77	.87	2.23	2.46	2.60	2.66	25	101	296	382	24	Bleached	90	85	79	1.5	95.0
3392	79.80	55.0	5.50	4.15	1.35	2.5	153	9.5	9.5	75	SLR	45.45	44.15	1.30	855	.46	.64	.80	.79	2.11	2.37	2.40	2.31	28	154	350	346	0	Unbleached	93	86	84	1.9	88.0
3393	75.20	55.0	5.60	4.25	1.35	2.5	153	9.5	9.5	75	Conc.	47.30	45.90	1.40	889	.52	.68	.92	.91	2.11	2.37	2.29	2.20	64	86	360	594	21	Unbleached	71	60	54	3.3	92.5
3394	75.00	55.0	5.50	4.23	1.27	2.5	148	9.5	9.5	75	Conc.	49.20	47.40	1.80	925	.71	.85	1.00	.99	2.30	2.24	1.96	1.91	123	346	488	446	0	Bleached	92	87	84	6.2	89.1
3395	74.90	55.0	5.68	4.34	1.34	2.5	148	9.5	10.5	75	Conc.	46.50	45.20	1.30	874	.53	.72	.80	.88	1.88	2.16	2.15	2.04	39	195	311	513	33	Unbleached	89	81	72	1.9	93.6
3396	75.00	55.0	5.64	4.28	1.36	2.5	140	8.0	10.5	75	SLR	45.85	44.60	1.25	862	.45	.74	.77	.86	2.06	2.57	2.56	2.45	37	142	163	759	21	Bleached	90	88	82	1.6	91.9
3397	75.00	55.0	5.50	4.16	1.34	2.5	140	12.0	12.0	75	Mod. SLR Conv.	45.80	44.30	1.50	861	.49	.69	.81	.90	2.05	2.40	2.54	2.25	61	166	266	871	21	Unbleached	91	86	83	1.3	96.4
3398	75.00	55.0	5.50	4.19	1.31	2.5	148	9.5	9.5	75		42.55	41.20	1.35	800	.38	.58	.66	.69	1.93	2.29	2.35	2.24	26	97	97	96	15	Bleached	92	87	83	0.8	97.6
3399	75.20	55.0	5.50	4.15	1.35	2.5	151	10.0	10.0	75	SLR	44.15	42.95	1.20	830	.41	.63	.75	.85	2.01	2.32	2.50	2.50	23	84	379	405	10	Unbleached	71	62	57	1.3	96.0
3400	75.00	55.0	5.54	4.20	1.34	2.5	148	9.5	11.5	75	Conc.	41.90	40.80	1.10	788	.32	.43	.58	.70	1.79	2.15	2.47	2.54	12	22	74	163	0	Bleached	91	86	82	1.7	97.5
3406	75.60	55.0	5.58	4.20	1.38	2.5	135	7.0	10.5	75	SLR	47.85	45.90	1.90	900	.61	.83	.97	.97	2.49	2.62	2.46	2.07	117	312	405	794	15	Unbleached	73	63	60	4.0	93.0
3408	76.80	55.0	5.68	4.33	1.35	2.5	135	4.5	10.5	75	SLR	43.15	41.95	1.20	811	.44	.65	.77	.82	2.15	2.65	2.74	2.72	78	261	595	795	27 0 21	Unbleached Bleached	91 60 92	88 48 87	83 44 83	3.3	95.0

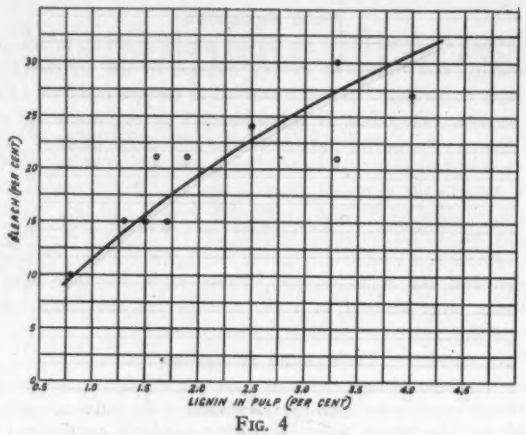

FIG. 4

Relation of bleach requirement to lignin in pulp.

Increasing the final temperature from 148 deg. C. to 153 deg. C. on a concave curve, the total time remaining the same, decreased the yield of pulp, the pulp strength, and the bleach requirement. This was exactly as noted with the straight-line type curves. The data for digestions Nos. 3394 and 3393 bring out the points mentioned.

Holding the pulp at the maximum temperature for one and two hours, respectively, after reaching 148 deg. C. reduced the pulp yield, strength, and bleach requirement proportionately as the time of holding was increased. These facts are brought out by comparing the results of digestions Nos. 3394, 3395, and 3400.

Comparison of the Different Types of Temperature Curves

In conformity with previous experience, the "concave" type of curve gave the highest yield and bursting strength. The folding strength, however, was lower than that obtained by means of the "straight-line" curves. When the maximum temperature was held, for some time, in order to lower the bleach requirement of the pulp, the advantages of high yield and strength were not retained as they were with white spruce.[8] The higher lignin content of the hemlock may possibly account for this fact. The relatively low intermediate temperatures, below 135 deg. C., apparently did not give sufficient removal of lignin in the time allowed, and this condition proved detrimental in the later rapid increase of temperature.

Also in agreement with previous experience the "convex" type of curve with extremely high intermediate temperatures gave the lowest yield, strength, and bleach requirement of any of the three types of temperature curves.

As might be expected, the "straight-line" type gave results in between those obtained from the "convex" and "concave" curves.

The best results for a bleachable pulp were obtained by a modification of the straight-line curve (digestion No. 3390, Fig. 1) in which the temperature was raised at a uniform rate to 125 deg. C. in **2 hours after the penetration period, and then** at a slower uniform rate to 140 deg. in 7½ hours more. The yield and strength were high and the bleach requirement was low. (Fig. 3.)

In considering the chemical analysis of the pulps it is interesting to note that both high cellulose content and high ratios of cellulose to lignin were obtained under severe cooking conditions (digestion No. 3398) in which the yield and physical strength were low as well as under less severe conditions (digestion No. 3397) in which the yield and strength were high. Fig. 4, shows the relation of the bleach requirement of the pulps to the amount of lignin in them. Apparently a definite relationship exists although all of the differences in bleach requirements are not explainable on this basis alone.

[8] Only two digestions were made to show this effect and further experiments in which the temperature is held constant for different maximum temperatures will be necessary to provide definite proof.

Conclusions

Applying the different types of temperature curves to the pulping of hemlock results in the same general trends as those that were obtained in the earlier work with spruce, except that relatively high intermediate temperatures are desirable for pulping hemlock for a low bleach requirement, at least when the total cooking time is less than 12 hours.

Under the same conditions of pulping, the yield and the strength of pulp obtained from eastern hemlock were lower than those obtained from white spruce, and the bleach requirement was higher. The yield of pulp per cord for hemlock is consistently lower than that for spruce and is at least partly accounted for by the lower solid wood content per cord, 75 cubic feet.

In order to obtain a high folding strength combined with a low bleach requirement, temperatures much higher than 140 deg. C. were found undesirable.

For strong, unbleached pulp either the "concave" or the "straight-line" type of curve is satisfactory. A 9½ hour digestion with a final temperature of 148 deg. c. gave good results. The maximum temperature should be increased where a shorter cooking time is used and decreased when a longer time is allowed.

For easy-bleaching pulp, either the "straight-line" type of curve, with the pulp held for some time at the maximum temperature, or a modification in which the temperature is increased more rapidly to 130 deg. C. and then more slowly to a lower maximum temperature, should give the best results. For a 10½ hour digestion, the "straight-line" curve should start from 115 deg. C. in 2½ hours, increasing at a uniform rate to 148 deg. C. at the end of 9½ hours, and then this temperature should be held for one hour. A satisfactory modification of this curve might be a uniform increase in temperature to 130 deg. C. at the end of 4½ hours followed by a slower uniform increase to 143 deg. C. at the end of 9½ hours, with the temperature held at 145 deg. C. for one hour.

Application

In applying these results commercially, the cooking time should be determined by balancing the requirements of the mill for production, yield, strength, and bleach requirement. For a high yield of strong, easy-bleaching pulp it seems necessary to cook at least 12 hours. For a shorter cooking time, a low bleach requirement is obtained at the expense of yield, and very likely also at the expense of the strength of the pulp.

The recorded temperature in a large digester is seldom the average temperature of the digester, its own average is often at least 5 degrees higher than the digester average. Allowance should therefore be made for this difference. In trying a temperature curve, if the digestion is completed too early or too late, or if the pulp seems too soft or too hard for the curve used the temperature should be lowered or raised accordingly.

Container Plant at Circleville Burned

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, October 13, 1930.—It is understoood that repairs are being made to the plant of the Container Corporation of America, partly destroyed by fire early in October, at Circleville. Ten thousand tons of straw in the millyard were lost in the fire and the loss was placed at the time at $100,000.

The blaze started at 5 o'clock on the morning of October 3 and burned for several hours before it was brought under control.

The Circleville department, unable to make much progress in checking the flames at the start, and fearing a spread to the other buildings and the machine room, summoned help from Columbus, Chillicothe and Lancaster. With the arrival of equipment from those cities, the fire forces soon assumed mastery of the situation.

The company uses straw in the manufacture of cardboard. The Container Corporation maintains headquarters in Chicago. Approximately 200 men are employed in the Ohio plant.

Fusion Welding

Fusion welding is the subject of a new bulletin issued by The Babcock & Wilcox Company. This publication discusses a new method of welding which, the company states, eliminates the necessity for long training or great skill on the part of the operator and produces welds equal to or better than the work metal in tensile strength, shock resistance, ductility, and the ability to withstand repeated stresses. These characteristics are illustrated by photographs and descriptions of test specimens, chemical analysis, macrographs and photomicrographic studies.

A chapter of this bulletin is devoted to the non-destructive tests employed by The Babcock & Wilcox Company to prove the efficiency of welded seams in finished products without damage to the product in any way. Photographs of X-Ray studies are shown, and a new electro magnetic tester is described which hunts out defects in welds and records their presence on a graph. The bulletin also shows how these non-destructive tests have been checked and verified.

Copies of this publication may be had by addressing The Babcock & Wilcox Company, 85 Liberty street, New York, N. Y.

S. F. Shattuck Heads Seminar at Lawrence

Five officials of the Kimberly-Clark Corporation are leading discussions in an experimental project at Lawrence College, Appleton, Wis., a "seminar on human relations." The seminar is headed up by S. F. Shattuck, vice-president of the company, who is also the personnel director. The others are H. G. Boon, superintendent; J. T. Eubank, engineer, and F. S. Martin, M. G. Hoyman and S. Robinson, of the educational division. The purpose, as outlined by Dr. Henry Merritt Wriston, president of the college, is primarily an experiment in class teaching with professors and representatives of industry acting as teachers to the students, and also is an endeavor to show a common interest and connection between academic and industrial fields. The group, consisting of students, faculty and officials will meet for the first time on October 8 to discuss "Raw Materials in Employment," with Mr. Shattuck as the leader.

Connecticut Valley Superintendents Meet

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., October 7, 1930.—The October meeting of the Connecticut Valley Division of the Paper and Pulp Mill Superintendents Association was held at the Hotel Nonotuck Saturday night about 60 attending. The two speakers were E. L. Tewksbury of the Stowe & Woodbury Company of Newton Upper Falls, Mass on "Rubber as it relates to the paper industry;" and by R. E. Chase of the research dept. of the International Nickel Company of New York City, on "The Uses of Certain Metals in the Paper Industry." The committee in charge included Matthew V. Horgan, A. T. Barnett, and George W. Reardin of Holyoke; L. E. Weiser of New Haven; Joseph Moses of Fitchburg; Elias Davidson of Springfield; C. N. Mooney of Lee; W. H. Colt of Turners Falls and Charles D. Higgins of Bellows Falls, Vt.

TAPPI Notes

Dwight K. Bartlett, Jr., for several years with the Windsor Division of the American Writing Paper Company at Windsor Locks, Conn., has been transferred to the Gill Division at Holyoke, Mass.

Frank R. Filz, for the past several months assistant chemist at the George W. Wheelwright Paper Company, is now chief chemist.

Max Tengler, engineer for the Hammermill Paper Company, Erie, Pa., is now in Austria.

Stephen Smith, superintendent of the paper mill of Bird & Son, East Walpole, Mass., has resigned and has been succeeded by Wilkins.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B Streets, Washington, D. C. The charge for this service is 25 cents per page. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Removable Type of Fourdrinier Paper Machine. Herman L. Kutter. U. S. pat. 1,721,699, July 23, 1929.—The breast roll is mounted independently of the table roll frame, the shake being imparted only to the breast roll and not to the table rolls. The table is constructed in two sections, a forming section with a table-roll frame, and a suction-box frame, both of which are bodily movable out of alignment with the forming wire to facilitate removal of the latter, the breast roll being hung from the end of the table-roll frame when a wire is changed. In order to prevent grooving of the suction-box covers, the suction-box frame is given a slow oscillatory movement (about one oscillation per 5 to 10 minutes) transverse to the direction of the wire.—A.P.-C.

Methods of Mounting Table Rolls of Fourdrinier Paper Machines. Alonzo Aldrich. U. S. pat. 1,723,834, Aug. 6, 1929.—The object of the invention is to mount the table rolls in such a manner that they can be shaken without shaking the entire table structure. To this end, the table rolls are mounted on rails which, in turn, are mounted on a series of vibratory or swinging supports (e. g., flexible material such as oak or other wood), whose lower ends are secured to the main side rails of the table. One of the table-roll rails is connected to a series of eccentrics mounted on a shaft parallel to the table-roll rail. The breast roll is mounted independently of the table rolls, and is shaken independently of but in synchronism with them.—A.P.-C.

Web Carrier for Paper Making Machine. William E. Sheehan. U. S. pat. 1,712,587, May 14, 1929.—Instead of using a woven felt, with a napped surface, a pounded felt made in substantially the same manner in which early woolen felt fabrics were manufactured, is used. It is claimed that such felts have as great or greater strength, weight for weight, than the usual woven and fulled felts, that they are as efficient as or better than woven felts as drainage or pick-up felts, that the working surface will show no appreciable change in texture due to wear, and they do not cause yarn marks in the paper.—A.P.-C.

Wire-Cleaning Device. V. Antoine. Eng. pat. 312,370.—In apparatus for cleaning and washing paper machine wires, flexible steam pipes, having wide orifice nozzles, are mounted on slides and on a screw-threaded spindle which can be rotated by a handle or by gearing from the machine to traverse the jets across the wire. The slides can be adjusted on suitable supports so that the jets can be inclined in relation to the wire as required. The device is placed above the lower run of the wire, and a metal sheet, preferably of curved form, protects it from any water falling from the upper run of the wire. A simpler form of the apparatus comprises nozzles on a pipe mounted to slide on a rod and capable of being raised and lowered by a right- and left-threaded screw, an operating handle being provided.—A.P.-C.

Wire Cloth for Paper Machines. P. Smith. Eng. pat. 314,199.—Wire fabrics for pulp and paper machines are woven with the warp threads extending in sinuous undulatory zig-zag lines, whereby the frictional drag of the cloth over the suction boxes is reduced without reducing the suction action.—A.P.-C.

Paper Machine. W. Voith, H. Voith and H. Voith. Eng. pat. 312,331.—The reversing press is dispensed with, and the marks on the underside of the sheet produced by the wire and by the felt are removed by the use for the second wet press of a top roll covered with an elastic jacket, such as rubber, and a bottom roll of non-elastic polished material such as stone or chilled iron, a top felt being used and the bottom felt being omitted. For thin papers the top felt runs through both presses, but for stronger papers its passage through the press immediately in front of the drying cylinders is sufficient. Air currents from nozzles press the web against the felt in its passage to the last press.—A.P.-C.

Process and Apparatus for Removing Water from a Moist Paper Sheet. Alois Danninger, Herbert Schmolka and Richard Kastner. Fr. pat. 660,749, Sept. 11, 1928.—Before passing through the last press, the sheet is heated to about 60 deg. to 80 deg. C. either by means of radiating electric heating units, by means of superheated steam and/or hot air, or by passing an electric current directly through the moist sheet.—A.P.-C.

Couch Roll. Nelson E. Booth. U. S. pat. 1,719,647, July 2, 1929.—The roll comprises a central cylindrical core surrounded by thick strips of pressed wool felt of rectangular cross section, secured side by side about the periphery of the core and extending longitudinally the entire length of the roll. The means used to secure the strips to the core compress the inner edges of the strips to form each of them into a wedge-shape, so that the outer edges of the strips form a continuous cylindrical surface.—A.P.-C.

Preheating Paper on the Machine. Robert E. Argy. U. S. pats. 1,712,374 and 1,712,375, May 7, 1929.—No. 1,712,374.—The paper is preheated by passing it around the baby drier before passing it through the last wet press, and means are provided for driving the baby drier in synchronism with the last press. No. 1,712,375.—Before passing through the last press, the paper is carried around a small heated roll to preheat the paper.—A.P.-C.

Cylinder Paper Machine. Charles E. Pope assignor to Great Northern Paper Co. U. S. pat. 1,714,238, May 21, 1929.—The cylinder mold is mounted on a stationary horizontal, hollow shaft and is open at the ends practically to the inner surface of the wall of the mold so as to ensure passing out of the water that penetrates into the cylinder without forming a pool therein. The top edge of the overflow dam of the vat is slightly below the level of the axle of the cylinder. Inside the cylinder is a suction box against the inner face of the cylinder, having its lower horizontal edge in horizontal alignment with the top of the dam so that the suction is applied to the paper sheet at and above, but not below, the point where the sheet emerges from the liquid in the vat and to hold the sheet intact on the cylinder against the washing effect of the liquid in the vat. The suction box is mounted on the shaft and connected thereto in such a manner that the water and air which are drawn through the sheet into the suction box can pass into the shaft at different levels without intermixing.—A.P.-C.

Guard for Paper Winding Machines. John C. Hammel and William O. Dickinson. U. S. pat. 1,713,382, May 14, 1929.—A movable guard is mounted to span the space between the roll being wound and the winding drum and to rest on and move with the roll being wound, thereby covering the space at all times during the winding of the roll.—A.P.-C.

Draw Regulator for Paper Machine Dryers. Siemens-Schuckertwerke. Fr. pat. 659,051.—The draw regulator for the dryer part of the paper machine is synchronized with the individual drives of the dryers by means of an asynchronous machine connected in parallel with the parts of the machine beyond the dryers. The

drive can be effected by means of a direct current motor connected in parallel with the motors driving the dryers, or by means of an asynchronous machine connected in parallel with the primary or with the secondary of the machines beyond the dryers.—A.P.-C.

Thermodynamics of Dryer Shell Heat Transfer. F. C. Farnsworth, Farnsworth Co. Paper Trade J. 89, No. 17, 47-49 (Oct. 24, 1929).—A discussion of the mechanism of heat transfer through paper-machine dryer shells, and of the various factors affecting it.—A.P.-C.

Roll Winder Development. James A. Cameron, Cameron Machine Co. Paper Trade J. 92, No. 14, 80-81 (Oct. 3, 1929); Paper Mill 52, No. 39, 16, 18 (Sept. 28, 1929); Pulp Paper Mag. Can. 28, 513-514 (Oct. 3, 1929).—A brief discussion of the advantages of score-cut slitting over shear-cut slitting in the production of perfectly wound rolls.—A.P.-C.

New Speed Regulator for Paper Machine Drive. R. R. Baker, Westinghouse Electric & Mfg. Co. Paper Trade J. 92, No. 14, 85-87 (Oct. 3, 1929); Paper Mill 52, No. 39, 26-28 (Sept. 28, 1929); Pulp Paper Mag. Can. 28, 595-596, 616 (Oct. 17, 1929).—A description of the new Westinghouse regulator with a discussion of its merits.—A.P.-C.

Inspection of Paper. L. P. Parkman, S. D. Warren Co. Paper Mill 52, No. 41, 10, 40 (Oct. 12, 1929).—A discussion of the importance of interdepartmental inspection of paper in order to obtain proper and uniform quality of the finished product, together with a description of the system in use at the mills of the S. D. Warren Co.—A.P.-C.

Manufacture of Waterproof Fibrous Products. Harold L. Levin, assignor to The Flintkote Co. U. S. pat. 1,723,361, Aug. 6, 1929.—The water-proofing is effected by applying an aqueous emulsion of a waterproofing substance (preferably asphalt) between the wet plies formed on different cylinders of a multi-cylinder machine before they are united. The emulsion is fed to a trough in which rotates a wire-fabric covered roll, partly immersed in the emulsion and the upper portion of which is in contact with the web to be waterproofed. The invention relates more particularly to a device for ensuring a uniform feed of the emulsion in easily regulatable amount to the trough containing the applying roll. The emulsion is fed from a head box containing a plate with an orifice of given size, so as to give a known and uniform rate of feed, and the latter can be altered by inserting another plate with a different-sized orifice. The emulsion is fed at a relatively high consistency (about 2.5 pounds of asphalt per gallon), and is diluted with water just before it reaches the trough, in such a manner that an increase in the consistency (which will result in lowering the level of the emulsion in the trough) will cause a corresponding increase in the amount of dilution water added.—A.P.-C.

Apparatus for Applying Waterproof Material to Sheets. Lester Kirschbraun and Chester R. MacDonald, assignors to The Flintkote Co. U. S. pat. 1,724,137, Aug. 13, 1929.—The invention provides a special construction for the roll by means of which a layer of waterproofing material (preferably in the form of an aqueous asphalt emulsion) is applied to the wet plies of paper or board formed on a multi-cylinder machine before the plies are combined to form a single sheet. The roll consists of a cylinder core upon which is arranged a number of spirally wound wires. Spaced transversely across the surface of the roll and disposed upon the spiral winding wires are a number of spacing or backing rods, and a screen of suitable wire mesh is wound about the outside of the backing rods.—A.P.-C.

Seal for Vacuum Paper Dryers. John E. Alexander assignor to Minton Vacuum Dryer Corp. U. S. pats. 1,713,485, May 14, 1929, and 1,719,793, July 2, 1929.—No. 1,713,485.—A packing chamber is provided at each end of the dryer for introducing the sheet into the drying chamber and leading it out. The paper is passed into (or out of) the packing chamber between two contacting rubber rolls, the trunnions or supporting shafts of which project through overlapping packing plates or disks on the shaft bearings adjacent the metal-capped ends of the rolls. The distance between the end walls of each packing chamber is adjustable. The rolls are sealed off along their lengths by means of stationary doctors which are pressed against the rolls by means of adjustable springs. The top roll of each pair is pressed against the bottom roll by means of springs, and the resultant play is provided for by means of rubber diaphragms in the end walls of the packing chambers. No. 1,719,793.—The seal comprises a pair of contacting rolls, one of which is metal or other suitable material and is provided with a stationary doctor or a metal roll doctor, as desired, and with a spring-impelled liquid seal member. The other roll is rubber-covered and in connection therewith is a rotating cleaning brush and a rotating doctor-roll held in contact with the rubber-covered roll by means of a spring-impelled liquid seal doctor.—A.P.-C.

Steam Fitting for Journals for Rotary Steam Cylinders. Alonzo Aldrich and Earl E. Berry, assignors to Beloit Iron Works. U. S. pat. 1,718,209, June 25, 1929.—The invention is characterized by the provision of a flexible lengthwise-expansible steam conduit interposed between a substantially rigid stationary steam conduit and a bearing part which seats against one end of the hollow journal of the drying cylinder, and in the provision of adjustable pressure-exerting means, such as compression springs, interposed between the rigid conduit and the bearing to maintain an approximately constant pressure between the bearing surface of the steam joint. By reason of this arrangement the changes in steam pressure do not act on the bearing member to affect the function of the pressure-exerting means; consequently the pressure between the bearing faces at the joint is maintained independently of variations in the steam pressure.—A.P.-C.

Winder Drive. James W. Corey assignor to The Reliance Elec. & Engr. Co. U. S. pat. 1,720,118, July 9, 1929.—In surface winders of the multiple-drum type each drum is driven by an individual motor, as is also the slitter. The drum-driving motors are compound wound, and the field winding of each motor has an individual rheostat in the circuit, the adjustment of which permits of driving the second of each cooperating pair of drums at a somewhat higher speed than the first. There is also a master control rheostat in the field circuit of the generator supplying current to all the motors, including the slitter motor. The wiring is such that, when starting up the motors, the slitter motor is automatically started a little before the drum motors, and when stopping the motors the slitter motor is stopped only after the drum motors have been stopped, thus preventing any damage to or tearing of the paper owing to its being pulled against the slitter knives when the latter are not rotating.—A.P.-C.

Sectional Drive for Harper-Fourdrinier Paper Machines. Daniel R. Franc is assignor to The Waterbury Tool Co. U. S. pat. 1,722,905, July 30, 1929.—The rotation of the first press roll is used for driving the pump or A-end of a Waterbury hydraulic speed gear. Fluid from the A-end of the gear is circulated under pressure to the hydraulic motor or B-end of the speed gear, and the latter is used to drive the couch roll of the paper machine.—A.P.-C.

Friction Calender. Francis W. Eagan and John O. Ross assignors to J. O. Ross Engr. Corp. U. S. pat. 1,714,261, May 21, 1929.—One of the chief causes of the disintegration of the paper rolls of friction calenders is overheating which takes place to a greater extent at the ends when the sheet to be calendered is not the full width of the calender rolls. In order to prevent the resultant uneven wear and disintegration provision is made to cool the portions of the paper rolls over which the web does not pass. This can be effected in various ways: (1) by means of longitudinally adjustable rolls which are in contact with the paper calender rolls on the one hand and with a roll partly immersed in water on the other hand; (2) by blowing cold (preferably moist) air against the paper rolls.—A.P.-C.

Carbon-Paper Roll-Trimming Mechanism. Samuel A. Neidich and George Garwood. U. S. pat. 1,714,395, May 21, 1929.—The improved mechanism includes axially opposed mandrels, one of

which is arranged to be positively rotated but is incapable of axial movement, while the other may be axially shifted to receive a core between the mandrels and engage the core, and thereafter to be turned idly, with the core, by the rotation of the other mandrel. The mechanism includes means to simultaneously trim both the opposite ends of the carbon-paper roll placed between the mandrels by means of a pair of circular cutters which are carried by a rock shaft so that they may be manually pressed toward the carbon-paper roll. An important feature of the mechanism consists of means to calibrate each roll with reference to the position of the cutters, so that the roll may be properly trimmed with reference to the core which carries it.—A.P.-C.

Method and Apparatus for Steering Felts Used on Calenders. John G. Callan, assignor to Eastern Mfg. Co. U. S. pat. 1,714,846, May 28, 1929.—The belt is put under comparatively heavy, but not destructive, initial tension, and the guiding or steering is accomplished by the use of some means or mechanism that stretches one edge more than the other, within the elastic limit of the material. The edge that receives the greater tension is lengthened the more and therefore progressively falls behind as the felt is fed forward by the revolution of the calender rolls. This progressively corrects the angle of the entry of the felt into the nip and causes it to edge over away from that side that is under greater tension. The automatic mechanism is similar to that used for guiding fourdrinier wires, and comprises a guiding roll which is pivoted to swing about an axis substantially at the center of its length; the guide roll, however, instead of acting on a substantially flat part of the felt (as in the case of fourdrinier wire guide rolls) is placed in the vertex of an angle formed by the approaching and receding stretches of the felt, the angularity of the two stretches being different relative to the plane of swing of the guide roll. As an added precaution against the development of puckers and consequent destructive wrinkles at the edges of the felt, a guide roll is used to bring the felt into contact with the calender roll at a point some distance ahead of the nip so as to wrap the felt over a substantial arc of the calender roll before reaching the nip.—A.P.-C.

Coated-Board Finishing and Cutting Apparatus. Charles C. Colbert and George E. Preston, assignors to American Coating Mills. U. S. pat. 1,722,559, July 30, 1929.—The invention provides a machine for calendering and cutting coated paper board. Means are provided for properly guiding, tensioning and smoothing out the board as it comes from the dryer and is delivered to the calender, and for driving the cutters in synchronism with the calender. Two or more rotary cutters are provided after the slitters, so that the several strips into which the main web has been slit may be cut into sheets of different lengths. If desired, one or more of the strips may be wound into rolls instead of cut into sheets.—A.P.-C.

Apparatus for Seasoning and Rectifying Paper Stock. George E. Poggel, assignor to Advance Mfg. Co. U. S. pat. 1,725,764, Aug. 27, 1929.—The invention is an improvement on the apparatus covered by U. S. pat. 1,325,044, of Dec. 16, 1929, and provides: (1) means whereby the apparatus may be kept in practically continuous operation; (2) improved panels which can be adjusted so that they may be brought up to the side of the suspended paper stock, thus ensuring the direct upward passage of the air between the sheets and preventing escape of the air laterally; (3) improved means for effecting ventilation to permit of controlling humidity and temperature as desired; (4) an improved arrangement of a number of fans and groups of heating units to vary the temperature and lower the humidity according to requirements; (5) more compact arrangement of the means for suspending the paper stock and the portable cabinet carrying the fans, heating the units and panels.—A.P.-C.

Method of Making Fiber Board. Otto Mantius. U. S. pat. 1,723,051, Aug. 6, 1929.—In the usual process of removing water from the sheet by passing through a series of presses, there is a certain re-absorption of moisture as the sheet passes out from between the press rolls. In order to prevent this, the sheet is subjected to a continuously increasing pressure without cessation in the application of the pressure. The device used for carrying out this method consists in feeding the moist sheet between two belts which gradually converge for a certain distance and then run practically parallel. These belts are preferably slat conveyors; they may be conveniently formed of steel slats positioned edge to edge and extending transversely of the machine, and mounted on endless conveyor chains which serve to hold them in the desired relation and to drive them. Back of each belt are two sets of rollers; the lengths of the rollers are only half that of the slats; the rollers of each set are placed side by side and the two sets are staggered. The slats of the belts are substantially rigid and are sufficiently wide to bridge over adjacent rolls. The rolls back of the lower conveyor are mounted on a fixed bed, while those back of the upper conveyor are mounted on a bed urged toward the lower one by means of springs. Endless traveling wire fabrics are interposed between the web and the slat conveyors.—A.P.-C.

Machinery for the Manufacture of Fiber Boards. Wilford B. Hoggatt. U. S. pat. 1,713,083, May 14, 1929.—The sheet is formed on a suction cylinder which is wrapped around about three-fourths of its circumference by a traveling wire fabric. On leaving the forming roll the sheet engages a second suction roll, the side of the sheet in contact with this roll being the opposite one to that which is in contact with the forming roll. It then passes to a third suction roll which removes a further amount of moisture, and is finally wound on a mandrel until the desired thickness has been built up and is then slit to form a sheet or panel. The fact that the suction is made to act on both sides of the sheet on the wire results in a better bonding of the plies as the sheet is wound on the mandrel. On its return journey to the forming cylinder, the traveling wire is washed by jets of water, and the cleaning water is kept separate from the back waters passing through the wire from the stock.—A.P.-C.

Stencil Sheets. D. Gestetner Ltd. Neo-Cyclostyle Works.—Belg. pat. 357,712, Feb. 28, 1929.—The ink-impermeable coating consists of a composition-comprising gelatinizing organic colloids dispersable in aqueous medium associated with non-hygroscopic substances insoluble in water. These compositions contain ricinoleic acid or one of its compounds or derivatives.—A.P.-C.

Apparatus and Process for Impregnating Felt. Henry C. Koch. U. S. pat. 1,712,770, May 14, 1929.—The principle of the invention resides in impregnating roofing felt with asphalt by spraying asphalt under pressure against both faces of the felt. This is preferably carried out by passing the felt downwardly through a series of units consisting of compartments arranged in pairs on opposite sides of different runs of the felt. The walls of the compartments facing the felt are perforated and asphalt is pumped into the chambers at a rate greater than it can issue through the holes, thereby building up a pressure inside the chambers. After leaving the last spraying unit, the impregnated sheet is preferably passed through a press which removes the excess asphalt.—A.P.-C.

Method and Apparatus for Making Prepared Roofing. Thomas Robinson, assignor to Lancaster Asphalt, Inc. U. S. pats. 1,716,505 and 1,716,506, June 11, 1929.—The material comprises a core or base of a plastic character, which is waterproof and becomes substantially rigid on setting. This core may consist of finely divided minerals material and a bituminous product such as asphalt. The core formed to the desired shape is wholly encased within a jacket which is preferably a continuous wrapping of helical shape laid on the core while the layer is being produced. Such a jacket may be made by winding a strip of impregnated paper about the core, and this jacket may include a suitable reinforcement such as a wire. After the wrapping is laid on the core, the wrapping and such parts of the core as are exposed are coated with a sealing layer of a waterproofing compound, and then a wear surface may be applied on such parts as may be desired. The apparatus includes a housing containing a screw arranged to agitate the mixture forming the core and to discharge it from a suitable orifice. The screw terminates at the discharge in a mandrel which projects

beyond the housing and in the operation of the machine a continuous tubular layer of material is forced along the surface of the mandrel. Near the latter is a supply of the impregnated paper, and it is laid about the tubular layer as the latter is forced along the mandrel. The enclosed core is discharged from the end of the mandrel and at once passes through shaping rolls which consolidate the core tube into a web of suitable cross-section. Beyond the first shaping rolls are others which give the encased core the final shape, and the core is then led through devices which cut notches in one edge of the final product desired is in the form of strip shingles. From the notching cutters the core with its jacket passes through coating devices and finally receives its wear surface and final coating and is cut into units of the desired length. No. 1,716,505 covers the machine, and No. 1,715,506 the product.—A.P.-C.

Apparatus for Producing Crepe Paper. William H. Cannard. U. S. pat. 1,716,260, June 4, 1929.—The paper, which may have been previously crinkled transversely of its length, is passed between two plates at the ends of which are journaled series of small grooved shives. A round belt passes around each shive at one end of each plate and around a corresponding shive at the other end of the same plate. The belts passing around the two plates are in staggered relation, so that as the paper web passes between them it is gradually pleated or corrugated and the belts gradually come closer together from the paper-inlet end of the plates to the discharge and owing to the reduction in the width of the web due to corrugating. The distance and pressure between the belts is adjustable. After leaving the plates the paper is passed through a press to compress the pleats into permanent crinkles.—A.P.-C.

Paper Testing

Device for Protecting the Ends of Rolls of Paper. James A. Taylor, Horace A. Sheesley and Frederick W. Mears. U. S. pat. 1,716,249, June 4, 1929.—Caps or thimbles of metal, paper, cardboard or pulp are placed in the ends of the roll. Each comprises an end disk and an annular flange extending at right angles to the plane of the disk. In the disk, near its edge, is a perforation, and the disk is slit from this perforation along a line passing through the center and to the far edges. The severed edges all along the slit are sharpened or reduced in thickness, and the edges of the slit in the flange are also similarly sharpened. The caps may be made of a standard comparatively large size so that they will fit in their normal expanded condition over the end of the largest roll to be made. After applying to the ends of the roll to be protected, they are compressed so that the flange fits its snugly, the edges of the slit being made to overlap, and it is secured in place by means of a band or wire passing around the flange.—A.P.-C.

Burning Bark Refuse As Applied to Paper Mills. Anon. Pulp Paper Mag. Can. 28, 635 (Oct. 24) 680 (Oct. 31, 1929).—The Pehrson dryer consists of a stationary head which serves as a flue gas distributor and against which is a slowly rotating cylinder. The inside periphery of this cylinder is fitted with shaped steel plates or strips providing roomy gas passages slightly tapering from the charging to the discharging end and provided with longitudinal slots throughout the entire length of the dryer. The material to be treated is fed continuously through an aperture in the center of the drum, rests upon the louvres until the angle of repose is exceeded, when it tumbles over and then moves forward in a regular and definite manner propelled by the rotation of the drum, induced by the constant pressure of infeeding material combined with the tapered shape of the lurvres. The drum rotates in a direction sliding away from the charge resting upon the louvres, thus preventing the material from entering the lateral slots provided for the admission of the hot gases. The volume of the material under treatment may vary from 30% to 40% of the cubic capacity of the drum.—A.P.-C.

Variable Speed Transmission Applications. Reginald Trautschold. Paper Trade J. 89, No. 11, 40-46 (Sept. 12, 1929)—A number of typical examples are given of applications of hydraulic variable speed transmissions in paper mills.—A.P.—C.

Thermal Effects of Boiler Scale. Everett P. Partridge and Alfred H. White, University of Michigan. Ind. Eng. Chem. 21, 839-844 (Sept. 1929).—New determinations of the coefficient of heat conductivity of calcium sulphate boiler scales made in an experimental boiler at pressures up to 150 pounds per sq. in. gage are reported. The coefficient of heat conductivity measured by various investigators on 19 boiler scales varied between 1.13 and 3.06 kilogram-calories per sq. m. per hour per m. thickness of scale per degree C., with an average value of 2.15. According to Eberle and Holzhauer, the conductivity of boiler scale decreases with increase in porosity, and very porous silicate scales may have heat conductivity coefficients as low as 0.1, or one-twentieth of the average value for dense, non-porous sulphate scales. The effect of boiler scale upon heat utilization is very slight, probably amounting to not more than 3 per cent for a scale 2 mm. thick in a boiler operated at high ratings. While scale is relatively unimportant from the standpoint of loss in heat utilization, it is very important from the standpoint of temperature elevation in the metal of scaled heating surfaces. At the high rates of heat input by radiation occurring in water walls and in front-row tubes, thin scales formerly regarded as unimportant may cause failure due to overheating. A simple graphical solution of the heat flow equation is given for the rapid estimation of metal temperature increase caused by different rates of heat transfer, for scales of different thickness and heat conductivities.—A.P.-C.

Deconcentration: An Aspect of Boiler Control. Anon. Paper Makers' Monthly J. 77, 275-277 (July 15), 321-323 (Aug. 15, 1929).—A brief discussion of the conditions upon which foaming in the boiler depends, its effects, and the methods of controlling and preventing it (evaporation of make-up water, intermittent blow-down and continuous blow-down).—AP.-C.

Zeolite-Deconcentrator Combination for Boiler Water Purification. Elwood W. Scarritt, Elgin Softener Corp. Ind. Eng. Chem. 21, 821-823 (Sept. 1929).—The use of the zeolite water softener operating in combination with deconcentrating equipment eliminates the undesirable features of zeolite-softened water for boiler feed purposes, reduces operating cost, minimizes blow-down, and provides a clean boiler water which will produce clean steam. The high caustic concentration caused by zeolite-softened water is replaced by insoluble matter permitting the normal sulphate content of the raw water to provide in a majority of cases an adequate sulphate-alkalinity ratio for the prevention of embrittlement. The combination system operates by softening but a portion of the water by the zeolite system and by-passing a large quantity of raw hard water. The reaction between the soft and hard water creates sludge, which is uniformly and continuously removed from the boiler by the deconcentrating system. The results obtained with a combination system covering a period of 200 days under boiler room conditions are shown with accompanying curves and tables.—A.P.-C.

Laboratory Experiments with a Foaming Boiler Water. A. S. Behrman, International Filter Co. Ind. Eng. Chem. 21, 817-818 (Sept. 1929).—Laboratory tests indicated great improvement as regards foaming when organic coloring matter was removed from a boiler water, either by coagulation and filteration or by oxidation. On the strength of these experiments provision has been made for the treatment of the water with aluminum sulphate and sulphuric acid for the removal of the suspended and organic matter.—A.P.—C.

Chemical Proportioning of Internal Feed Water Treatment. E. M. Partridge, Paige & Jones Chemical Co. Ind. Eng. Chem. 21, 819-821 (Sept. 1929).—Operating results are given to show that harmful scale formation may be prevented at low cost through the use of organic matter in conjunction with quantities of inorganic chemicals far below the quantities necessary to react chemically with the scale-forming constituents of the feed water. A means for conveniently applying the treatment is described.—A.P.-C.

Improved Equipment for the Treatment of Feed Water for

Modern Steam Boilers. Joseph D. Yoder, Cochrane Corp. Ind. Eng. Chem. 21, 829-834 (Sept. 1929).—This paper directs attention to the importance of proper feed water treatment for the modern high-pressure boiler, which frequently operates at 400 to 1,200 pounds per sq. in. pressure and occasionally considerably higher. Attention is directed to the value of the research investigations of Parr and Straub, Hall and Foulk, whose writings have appeared in various technical publications. Illustrations and descriptions are given to show practical methods of treating water with phosphate to supplement the hot-process lime and soda treatment and also de-aeration. A recently developed sulphuric acid feeding equipment is described for treating boiler feeding waters to give a proper relationship of sodium sulphate to sodium carbonate from the embrittlement standpoint. This equipment is adapted for use with zeolite softening or with natural waters high in sodium carbonates. The proportioning of sulphuric acid is accomplished by balancing the differential pressure which imposes a corresponding pressure of the sulphuric acid solution upon a small chemical orifice thus insuring a flow of sulphuric acid solution proportional to the flow of water. All parts of the equipment coming in contact with acid solution are made of lead or rubber. A continuous blow-off equipment is described for removing the mineral solids as they concentrate in the boiler in such a manner as to recover the heat of the blow-off water. A steam purifier is illustrated to remove moisture from the steam before the latter enters the superheater. A conclusion is drawn that the modern high-pressure, high-rating boilers can be operated with satisfaction if proper equipment is installed for treatment of the boiler feed water and if it is operated in accordance with the recent disclosures of various water purification engines.—A.P.-C.

Some Examples and Precepts of Water Conditioning. R. E. Hall, Hall Laboratories, Inc. Ind. Eng. Chem. 21, 824-829 (Sept. 1929).—Operating data are given to show the results obtained in boiler plants where the author's system of water conditioning has been used. Experiments with antifoaming material indicate that other means should be taken to avoid wet steam in modern stationary boiler plants.—A.P.-C.

Economical Use of Water. C. A. Blodgett and W. D. Somerville, Eastern Mfg. Co. Paper Mill 52, No. 41, 16, 36 (Oct. 12, 1929).—A discussion of the advantages derived from white recirculation and utilization.—A.P.-C.

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New Power Plant at Hamilton. Anon. Paper Industry 11, 1026f-1026h (Sept. 1929).—A description of the new power plant under construction at the Hamilton plant of the Champion Coated Paper Co.—A.P.-C.

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Paper Standards. F. T. Carson, U. S. Bureau of Standards. Paper Trade J. 89, No. 16, 57-58 (Oct. 17, 1929).—Some recent studies carried out at the Bureau of Standards in arriving at recommendations for standards and specifications for various grades of paper are briefly reviewed, and the many ramifications of such investigations are discussed.—A.P.-C.

Section of the
COST DEPARTMENT
of the
American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

Some Cost Accounting Terms*

By John Whitmore [1]

When names seem expressive, but are not accurately so, there is a danger that they may govern our conceptions of the things named, and if these are still in process of development, names may even determine their eventual character. It seems to me that this is what has happened, and is still happening, to what we have all of us called "cost accounts." The name is simple and striking. It seems to convey a meaning perfectly, and even to constitute a binding definition. It is but natural if after a while cost accounts are found to have been fitted to their name; cost accounts are accounts to determine costs.

Influence of Federal Trade Commission

The federal trade commission has probably been one of the principal influences which have furthered among manufacturers a sense of the necessity of cost accounts, but always as far as I know to the end that they may have knowledge of the costs of their products. And a recent and not unauthoritative definition of cost accounts speaks of their sole purpose as being to state the costs of products. Nor, notwithstanding the emphasis laid constantly by practitioners of cost accounting upon the potential uses of cost accounts in attaining economy of manufacture, can one doubt that such a definition of cost accounts, as actually existing, has a wide, though of course not a universal, accuracy.

Now cost accounts originally bore another name. They were called "factory accounts." Apparently someone with an instinct for the striking word, managed to change their name, I believe with unfortunate results. The new name of "cost accounts," truly understood, is perfectly comprehensive, for all the expenses of manufacturing, from the building of a manufacturing plant to finishing the products for the market, are nothing but the costs of such products (unless, indeed, they are waste), and they are none of them ever recoverable at all except as they are recovered in the sale of the products.

But unfortunately the term "cost accounts" was liable to a narrower interpretation, and this is what has befallen it. They became a separate and limited thing, outside of the main system of double-entry bookkeeping and for the sole purpose of arriving at cost figures.

In the year 1887 there was published a book which was for long, and I am inclined to think that it still is, the best existing book on the subject of manufacturing cost accounts. But it was not called cost accounts, nor do I think that term occurs in the whole course of it. It was written by Emil Garcke, managing director of the British Electric Traction Company, and J. M. Fells, general manager of the Salt Union, Limited. They appear to have been important industrial executives, and they were certainly accomplished accountants. The title of the book was "Factory Accounts," and in it there was never the idea that the factory accounts were anything other than an integral part of the total system of double-entry accounting, or that they were for a single purpose, or for any limited number of specified purposes, for their many uses are considered step by step throughout the description of them.

The Idea in 1887

Contrast with the idea that cost accounts are for the single purpose of ascertaining costs of products even the following uses of factory accounts which are more specially dwelt upon in this book published as long ago as 1887:

A—To give (of course) the cost of production, both by completed products and in detail;
B—To disclose wastes and to point the ways to lowering costs;
C—To account for materials as cash is accounted for, and to regulate them in accordance with the factory needs;
D—To give continuous inventory figures, making frequent profit and balance-sheet statements possible;
E—To create a moral effect upon the employees, both by their knowledge of the existence of a strict accounting and by their own participation in effecting it;
F—To furnish a sound basis for participation by employees in profits arising from increased efficiency, binding the interests of employer and workmen more closely together.

It is possible that if we had held to the idea of factory accounts as an integral part of the balanced double-entry accounts of a manufacturer, with their unbroken chain of controlling accounts and controlled books, and had not substituted a narrower idea of "cost accounts," it might have been better. I think factory accounts is a more accurate and more useful term than cost accounts.

"Tying In"

The next cost accounting term that I will consider is "tying in," applied to the effecting of an agreement between the figures in the cost accounts and corresponding figures in the general books. A recent important publication,[2] in reviewing the history of cost accounting in the United States, says "the first long step forward of progress in overhead accounting came with the appreciation that costs should be tied in with the general books."

Now "tying in" can not possibly be anything more, and I do not see how it can be anything less than bringing the cost accounts within the double-entry system of the general accounts. As I have already said, in Garcke & Fells' book published in 1887 there is not the slightest suggestion that they shall be outside of that system, with the inevitable consequence of being unbalanced and uncontrolled. They are included in it by the simplest means. The general ledger stores account controls the materials and supplies ledgers. The manufacturing account con-

* From "Journal of Accounting" September, 1930.
[1] Partner, Patterson, Teele & Dennis, New York.

[2] This was originally a series of articles published in the *Engineering Magazine*, July to December, 1901.

trols the cost ledgers. The stock account controls the finished-stock ledgers. The bookkeeping principle, one might almost say the procedure, is identical with that of the controlling account and controlled ledger for accounts receivable. The "tying in" is just the same in the one case as the other, and it is nothing but simple double-entry bookkeeping. If factory bookkeeping is double-entry bookkeeping, there can be no need to talk of tying in. The cost accounts will be tied in already, quite perfectly.

The Unfortunate Term "Overhead"

And then there is the unfortunate term "overhead." This came into use but a very limited number of years ago, and seemed almost immediately to achieve a universal popularity. At present, practically, one is forced to use the term, however one rebels against it. In the original "Century Dictionary," published about forty years ago, there was no such word in the present sense. In the "Supplement," published about twenty years later, it appeared, defined as "average; applicable to all." Costs were then, and have been ever since, down to this very day, defined as consisting of materials, direct labor and overhead. In the pamphlet issued by the department of manufacture of the Chamber of Commerce of the United States, already referred to it is said:

"The Evolution of Overhead Accounting": Department of Manufacture, Chamber of Commerce of the United States.

"Overhead is usually defined in accounting text books to include the elements of cost that are left over after charging direct to a product the readily allocated materials and the labor that has been employed direct in its manufacture.

Indirect items of cost include such things as the superintendent's salary, power, light, the cost of owning and operating buildings and machinery, and so on. Overhead is the general term applied to these indirect costs."

The Chamber of Commerce pamphlet describes how at first all this "overhead" was distributed to the different products on the basis of direct labor, money or hours, without departmentalizing expenses; how later came the departmentalization of expenses; and later still machine rates.

In the Paper Industry

So far I believe it is plain that what is being considered is the machine industries. Indeed, I believe this is true of nearly all discussions of cost accounting, even to this day. As long as we assume this limitation, the methods of cost accounting advocated are intelligible, and all of them probably are still useful under the different conditions in the machine industries today. But there are other and vast industries to which such procedure seems to have little relation and often no relation whatsoever. In the paper manufacturing industries there can be no distribution of other expenses on the basis of direct labor, for labor and all other expenses of the principal part of the mill must be charged according to paper-machine time, and though this may seem virtually a machine rate it has little or no likeness to machine rates determined separately, and with much detailed distribution to each of, perhaps, a hundred machines in a machine shop. In foundries the distribution on the basis of direct labor has a limited place and is effected with necessary modifications. In the large forging operations, it is true, there are hammer and press rates which are practically identical in character with machine-tool rates. In the metallurgical and chemical industries the procedure is quite special to the operations, and has no likeness whatever to the procedure in the mechanical industries.

On the other hand I believe the distribution and division of all expenses to "production centres" may be accepted as a universal principle, for the production center may be the total of a factory, or a department of a factory, or a process, or a single machine, a single forging hammer or press, a single furnace of any character, a single still (as in oil refining), a single kettle (as in soap manufacturing), a group of tanks (as in electrolytic copper refining), or in fact any unit or group of units in any industrial processes.

But not all "overhead" is expense of production. Commonly a part of it, and often a considerable part, is expense of idleness. Some little time after the publication of Hamilton Church's "Proper Distribution of the Expense Burden,"[1] I talked on a few evenings to the students at the New York University School of Commerce and Accounts, and in those talks I dwelt long upon the importance of Mr. Church's book. But I dissented altogether from his supplementary rate by which he brought all factory expenses whatsoever into the cost of goods produced. I pointed out the imperative need of separating the expenses of what I then called "idle factory capacity," but which the present Chamber of Commerce pamphlet, contending for exactly the same thing called by the more convenient term of "idle facilities." The substance of what I said then was later printed as a series of articles in *The Journal of Accountancy* in the months of August, 1906, to January, 1907. This series of articles was reprinted in full in *The Accountant*, the organ of the Institute of Chartered Accountants in England and Wales, November, 1906, to February, 1907.[2]

"Overhead," therefore, defined as "average; applicable to all," is in large part expenses of individual production centers, costs of single processes and even of single products, as direct in their ultimate determination as the expense of materials and direct labor; and it is in varying but considerable part expense of idle facilities, and no part of the costs of any products at all. If it is doubted that the use of this word creates confused thinking, I may relate one trivial incident.

Combined Machine Rates Direct Labor

A few years ago I told a manufacturer, to whom I was talking of certain cost accounting plans as their development proceeded, that I proposed to distribute the purely general expenses of the machine shops on the basis of the combined machine rates and direct labor. He answered that it seemed to him that this would violate what he understood was "one of the first principles of cost accounting, that one must never distribute overhead on overhead." If he had used words of plain meaning and had said, "You propose to distribute the purely general expenses of a machine shop on the combined cost of machine labor and men's labor," I do not think he would have gone on to the same conclusion. But instead of simple facts and actual relationships he was considering "overhead."

The term "burden" is used now in the same sense as "overhead." They are used as absolute synonyms. All the time one comes across the expression "overhead or burden." Burden is at least a legitimate noun and consequently does not give one an immediate sense of bewilderment. In this connection it has also a different history. It originated in a period that is past, when expenses other than materials and direct labor were relatively small. Such was the state of affairs when Garcke & Fells' Factory Accounts was written in 1887. It is stated therein that many manufacturers were content to take out "prime cost," i.e., materials and direct labor, feeling that they could always make due allowance for the other expenses of manufacturing, without formal calculation. But "burden" and "overhead" live on together as alternative designations for the third element of cost in the machine industries. The limitation to the machine industries is my own, for it seems to me that such a limitation always exists without ever being mentioned.

Elements of Cost at Least Five

I leave "overhead" and consider "burden," which is a word having a meaning that can be discussed. Is it truly expressive of the expenses of manufacturing other than labor? I believe that in many machine operations the labor might more cor-

[1] I see that there is a belief prevalent now that the necessity of excluding the cost of idle facilities from the cost of products, and making it a separate charge to profit and loss, was first perceived many years later (see page 1228 Proceedings International Congress 1929). That this is completely an error may be readily seen by reference to the articles in *The Journal of Accountancy* in the months and years above mentioned.—J. W.

rectly be called burden, than the power and tools by which the work is actually performed. In such operations how plain it is that the elements of cost are at least five: Materials, Direct Labor, Power, Tools, General manufacturing expense. If these five divisions were recognized, if they had passed into the common cost-accounting speech, instead of the single paper "Accounting for Burden" in the recent international congress, we might have had at least a paper on power cost accounts and a paper on machine rates.

Depreciation

Then there is the word "depreciation." For what this word represents of the constant contention of accountants through the years when necessary depreciation charges were so commonly resisted, I have a great respect. Nevertheless the term is inexact, and consequently it has been a mischief-maker. Often it was difficult or impossible to contend that physical depreciation had occurred, and, even if obsolescence were considered, probably nothing of the kind was in sight. I believe the error was a fundamental error in the view taken of manufacturing plant. It was, and I believe often is, regarded as something having an actual value in itself, whereas its only value is in its use for production. Its creation is merely the first step, the initial process, in producing marketable goods, and the proportionate cost of that initial process is as much a part of the cost of every item of the resulting production as is the cost of any later process. It would seem impossible that there could at any time have been any question that a manufacturing plant has a limited life (whether limited by its being worn out or its being superseded) and that at the end of its life its cost has been a part of the cost of all the product obtained by its use, without excepting a single item of such product, from first to last; and that consequently by a process of amortization the cost of plant must be steadily absorbed into the cost of products, and that depreciation as a fact at any given time has nothing to do with the matter. I think amortization would always have been a better word.

Pre-Determined Costs

There is another cost-accounting term that has come into use and that seems not unlikely to achieve a popularity like that of "overhead," and this is "pre-determined costs." Predetermined costs have been put forward as something infinitely superior to actual recorded costs. I think myself that, whatever is meant by pre-determined costs, they can not but be something so absolutely different and distinct from costs actually recorded that the two are not comparable and that there can not be superiority of one over the other. "Pre-determined costs" are presumably compararble with any other estimates, or calculations, or forecastings of costs, before actual production, and I am not questioning any claims that may be made as to their uses and values, but I do not like the term. The Century Dictionary gives certain varied definitions of the word pre-determine, supporting each with quotations, and, in all except one, it is not man that pre-determines, but quite another Being. The single exception is represented by a quotation from Sterne's "Sentimental Journey:" "The moment I cast my eyes upon him, I was pre-determined not to give him a single sou." Which is of course quite a different thing from pre-determining the costs of manufacture.

Concerning estimates (which is all they can be) prior to manufacture, and costs actually recorded from day to day as the manufacturing progresses, and the uses of these two sets of figures in conjunction with each other, it would be difficult today to add anything of real significance to the following quotations from Garcke & Fells' book[4] published in 1887, although one speaker at the international congress seemed to think that before 1908 there were only the dark ages:—

"Before any order to manufacture is given it is advisable, as tending to produce greater economy in cost of production, that the designer, draughtsman, or other person best acquainted with its processes and details, should, on a properly ruled and headed form, estimate the probable cost to be incurred in wages and materials in the production of the articles in question. This estimate should be a minimum rather than a maximum one. The works manager or foreman should be supplied with a complete specification of all material and parts included in the estimate. The storekeeper should also be furnished with the same particulars, and should not without special authority issue more material for the order than is estimated."

"To ensure consideration of the question of what economies are practicable in construction or manufacture, the heads of the designing and manufacturing departments should be advised of the cost of each order when it is completed in such detail as permits of a comparison being instituted between the actual and estimated cost. As a matter of convenience the estimate forms may include columns for the actual costs to be inserted when known. The employer should be advised of the differences between actual and estimated costs in such detail as he may require. It is also desirable that a comparative cost register should be compiled showing the difference in cost of making the same or similar articles under differing conditions of time, material, parts, or quantities. This register will be specially serviceable in preparing estimates and quoting for orders, and permits of the necessary adjustments in quotations consequent upon the increase or decrease in the market price of material."

How simple the words, how temperate the phrasing throughout, and still I doubt whether there is any other book on factory accounts, even after this interval of 43 years, that can be read with so much profit today.

[4] My quotations from Messrs. Garcke & Fell's book are taken from the edition of 1902. I think I can say from memory that this 1902 edition is substantially the same as the original edition of 1887.—J. W.

News Print Production Lower in Sweden

[FROM OUR REGULAR CORRESPONDENT]

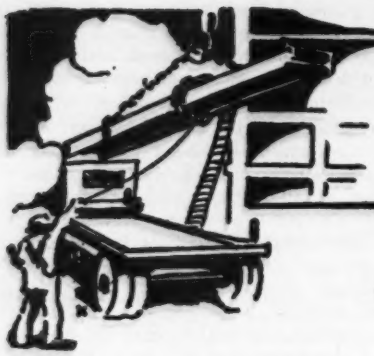
WASHINGTON, D. C., October 15, 1930.—News print production by the Swedish mills dropped from 21,414 metric tons in July to 19,571 tons during August according to reports received by the Department of Commerce.

The latter figure also represents a decline of 2,780 tons under the corresponding month of last year. Sales of news print during the current year have been unusually slow and contracts for next year's output have been few and far between, whereas by the middle of September last year most of the 1930 output had been placed. Some contracts have recently been reported between Swedish mills and American buyers, considerable quantities being booked for delivery at New Orleans.

Injured Mill Workers Granted Awards

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., October 11, 1930.—A number of injured paper mill workers were granted awards at a session of Compensation Court presided over by Referee James P. Richardson. Earl Buchanan, of Dexter, was awarded $3,980 for the loss of use of a hand while employed by the Warren Parchment Company. He was compensated for 208 weeks at the rate of $19.19. An award of about $300 was received by Lyman Hoffman, an employe of the Bagley & Sewall Company, for injuries received while working. The case of Isadore Benway, an employe of the Deferiet plant of the St. Regis Paper Company, was continued for further examination. He claimed that his hearing was destroyed by a blow he received on the head while performing his duties. Fred Williams, an employe of the Hinde & Dauch Paper Company, agreed to accept $100 for injuries and the case was settled by adjustment between the claimant and representatives of the American Mutual Insurance Company. A number of medical men were called to testify in the case of Hubert A. Thompson, an employe of the Deferiet mill of the St. Regis Paper Company, who claimed further compensation on the ground that the disabling condition recurred.



CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Hoboken, N. J.—The Gatti Paper Stock Corporation, Thirteenth and Monroe streets, has taken bids on general contract for a new addition to local plant, consisting of a two-story structure, 90 x 192 feet, reported to cost over $50,000, with equipment. It is expected to make award and begin work at an early date. C. F. Dieffenbach, 84 Washington Street, Hoboken, is architect.

Cloquet, Minn.—The Northwest Paper Company, Cloquet, has work about 50 per cent completed on its new local mill addition and will push the project to be ready for service at the earliest possible date. The new unit will be one-story, 125 x 724 feet, to house a machine department, beater division, finishing and other departments, and will provide for large increase in present capacity. General contract is being carried out by the James Leck Company, 211 South Eleventh Street, Minneapolis, Minn. The Jacobson Engineering Company, Plymouth Building, Minneapolis, is engineer.

Waterville, Me.—The Hollingsworth & Whitney Company, Gardner, Me., will carry out the construction of its proposed new steam power plant at paper mill by day labor, consisting of a one-story structure, reported to cost over $40,000, with equipment. It is proposed to have the unit ready for service at an early date. Charles T. Main, Inc., 201 Devonshire street, Boston, Mass., is architect and engineer.

Whippany, N. J.—The McEwan Mills Associates, Inc., have filed notice of incorporation to take over and consolidate the sales divisions of R. B. McEwan & Sons, McEwan Brothers, Inc., both with local mills for the manufacture of paperboard products, and the Newark Boxboard Company, Ferry and Blanchard Streets, Newark, N. J. The combined daily output at the three mills, all affiliated interests, approximates 400 tons, and it is expected to increase this from 10 to 15 per cent in the near future, with the employment of additional operatives, now totaling 350 persons. Robert B. McEwan, Jr., will be one of the heads of the McEwan Mill Associates, Inc., which will maintain New York offices at 500 Fifth Avenue.

Circleville, Ohio.—Fire, October 3, at the local plant of the Container Corporation of America, Inc., caused a loss estimated in excess of $100,000, a considerable portion of the damage being represented by raw material, the fire originating in the mill yard, used for straw storage, etc. The part of the plant which was destroyed will be replaced at an early date. The local mill has been giving employment to about 250 persons.

Everett, Wash.—The Puget Sound Pulp and Timber Company is developing maximum capacity at its new local bleached sulphite pulp mill, recently completed at a cost in excess of $4,000,000, and is now running with a full working force on a basis of 175 tons of pulp per day. The company is a consolidation of a number of pulp and saw mill interests, the different plants have a gross output of about 325 tons of pulp, including the Everett plant. It is expected to continue output at the local mill on the present basis for an indefinite period.

Jersey City, N. J.—The Stephen J. Leo Company, recently organized with a capital of $100,000, will take over and expand the James Leo Company, 251 Varick Street, Jersey City, manufacturer of paper boxes and containers, continuing in this same line of production, with expansion in variety of output. The new company is headed by Stephen J. Leo, William Milne and John H. O'Brien, all of Jersey City.

Ampthill, Va.—With the prospect of early completion of the first unit of the new local mill of the duPont Cellophane Company, River Road, Buffalo, N. Y., recently referred to in these columns, it is reported that the company contemplates beginning work at an early date on the second unit of the Ampthill mill, for which land was secured in the original property purchase. Such a mill would practically duplicate the plant now being completed and represent a cost close to $4,000,000. The local plant will be given over to the manufacture of new waterproof wrapping materials.

Philadelphia, Pa.—James E. Flannery & Co., 617 Cherry street, paper stocks, have leased the factory building at 607-11 North Hope Street, totaling about 50,000 square feet of floor space, and will use for expansion in storage and distributing service. It is understood that the company will take possession at once.

Philadelphia, Pa.—The Paper Novelty Corporation, recently organized by Charles G. Douglas, 319 Green Lane, Philadelphia, and associates, is said to be planning the early operation of a local plant for the manufacture of paper and cardboard specialties. Mr. Douglas will be treasurer of the new company. Others interested include Louis O. Bouchard, 3079 Tulip street, and David Simon, 4557 North 13th street.

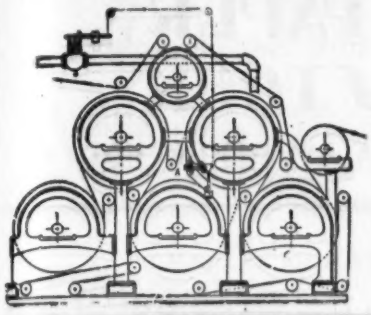
Dubuque, Iowa.—Fire, recently, at the mill of the Maizewood Products Company destroyed a quantity of raw material and that section of the plant, with loss reported at close to $10,000.

Hamilton, Ohio.—The Hamilton Paper Stock Company, Hamilton, is said to be planning the rebuilding of portion of storage and distributing plant on the Mill Road, near High Street, recently damaged by fire with loss of about $10,000.

St. Louis, Mo.—The Southern Container Company, recently organized by Harold C. Ackert, Central National Bank Building, and associates, is said to be planning the operation of a local plant for the manufacture of paper boxes and containers. A large output is proposed.

Cleveland, Ohio—The Industrial Rayon Corporation, West 98th and Walford streets, is reported considering the construction of a new mill on local site in the near future for the manufacture of a waterproof wrapping stock, formed of viscose rolled into sheets instead of shredded, giving a glazed finish, transparent stock. It is understood that experiments have been carried out at the present mill and that the material will be marketed soon. The estimated cost of the proposed new plant has not been announced but is expected to exceed $400,000. Hiram S. Rivitz is president of the company, which operates a branch plant at Covington, Va.

The Pickles Drying Regulator



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Hydraulic Pulp Dehydrating Presses, Calender Roll Recovering Presses

See MECHANICAL CATALOGUE A. S. M. E.

Roll Grinding Machines: Two-Wheel Roll Grinding Machines with swing rest and cam type crowning device always produce an absolutely accurate and correct shape; noted for efficiency and low-grinding costs. List of installations on request, with sizes and specifications.

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The name protects and guarantees you satisfaction.

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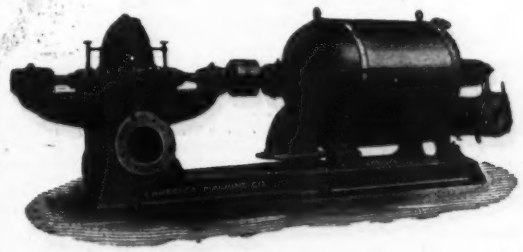

Lawrence pumps for all conditions and services. Forty-four years of practical experience with centrifugal pump development places us among the leaders. Our efforts have been rewarded by the acceptance of our product in general.

Thousands of installations and the successful performance of our pumps should be sufficient proof of our ability to handle your pumping problems. Our engineering force is at your command.

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Lawrence Machine & Pump Company

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Super Calenders
Friction Calenders
Embossing Calenders
Hydraulic Presses and Pumps

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The Textile-Finishing Machinery Company

PROVIDENCE, R. I.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING OCTOBER 11, 1930

SUMMARY

Cigarette paper .....656 cs.
Wall paper .....5 bls., 25 cs.
Paper hangings .....18 bls., 2 cs.
News print .....7355 rolls
Writing paper .....5 cs.
Printing paper .....136 cs.
Wrapping paper .....60 bls., 49 cs.
Packing paper .....5 cs.
Transfer paper .....46 cs.
Decalcomania paper .....11 cs.
Coner paper .....4 cs.
Tissue paper .....11 cs
Silk paper .....2 cs.
Filter paper .....120 bls., 227 cs.
Filter pulp .....20 bls.
Surface coated paper .....50 cs.
Baryta coated paper .....168 cs.
Metal coated paper .....55 cs.
Coated paper .....27 cs.
Photo paper .....60 cs.
Coated paper .....12 cs.
Parchment Paper ..... 6 cs.
Wafer paper .....16 cs.
Stencil paper .....13 cs.
Caoutchouc paper ..... 6 cs.
Paste board .....91 cs.
Miscellaneous paper ....158 rolls, 72 bls., 189 cs.

CIGARETTE PAPER

De Manduit Paper Corp., Waukegan, Havre, 173 cs.
De Manduit Paper Corp., Indep. Hall, Havre, 241 cs.
H. H. Strauss, Indep. Hall, Havre, 242 cs.

WALL PAPER

The Prager Co., Westernland, Antwerp, 1 ble.
——, Statendam, Rotterdam, 8 cs.
Universal Car Loading Co., Bremen, Bremen, 1 cs.
Guaranty Trust Co., A. Ballin, Hamburg, 12 cs.
F. J. Emmerich, A. Ballin, Hamburg, 4 bls.
Heimsoth Basse & Co., A. Ballin, Hamburg, 2 cs.
J. E. Bernard & Co., A. Ballin, Hamburg, 2 cs.
Schmidt & Pritchard, Milwaukee, Hamburg, 2 cs.

PAPER HANGINGS

A. C. Dodman Jr., Inc. Samarie, Liverpool, 11 cs.
W. H. S. Lloyd & Co., Minnetonka, London, 1 cs., 6 bls.
Whiting & Paterson Co., Inc., Mauretania, Southampton, 1 cs., 1 ble.

NEWS PRINT

Stora Kopperberg Corp., Gripsholm, Gothenburg, 50 rolls.
Scripps Howard Supply Co., Kungsholm, Gothenburg, 259 rolls.
J. Madden Corp., Sagoporack Helsingfors, 417 rolls.
J. Madden Corp., Bird City, Kotka, 451 rolls.
J. Madden Corp., Huttgart, Bremen, 696 rolls.
Baldwin Paper Co., Huttgart, Bremen, 121 rolls.
Baldwin Paper Co., Hjelmaren, Kotka, 63 rolls.
Lunham Reeve, Hjelmaren, Kotka, 354 rolls.
Lumham Reeve, Odensholm, Kotka, 339 rolls.
W. H. Bell, Markland, Liverpool, N. S., 4,147 rolls.
Wilkinson Bros. Co., Inc., Oscar II, Oslo, 6 rolls.
Perkins Goodwin & Co., A. Ballin, Hamburg, 42 rolls.
Perkins, Goodwin & Co., Milwaukee, Hamburg, 410 rolls.

WRITING PAPER

Bloomingdale Bros., Waukegan, Havre, 2 cs.
Schenckers, Inc., Hamburg, Hamburg, 1 cs.
American Express Co., Indep. Hall, Havre, 2 cs.

PRINTING PAPER

P. C. Zuhlke, Westernland, Antwerp, 31 cs.
F. L. Kraemar & Co., Carmania, London, 7 cs.
Winsor Newton & Co., Carmania, London, 1 cs.
E. Dietzgen & Co., Statendam, Rotterdam, 26 cs.
J. Henschel & Co., A. Ballin, Hamburg, 11 cs.
T. N. Fairbanks Co., Vulcania, Trieste, 60 cs.

WRAPPING PAPER

Sylvania Industrial Corp., Westernland, Antwerp, 25 cs.
C. Steiner, Statendam, Rotterdam, 60 bls.
E. Diltzgen & Co., Hatendam, Rotterdam, 19 cs.
Tamm & Co., Milwaukee, Hamburg, 5 cs.

PACKING PAPER

Gevaert Co., of America, Westernland, Antwerp, 5 cs.

TRANSFER PAPER

F. L. Kraemar & Co., Stuttgart, Bremen, 46 cs.

DECALCOMANIA PAPER

Phoenix Shipping Co., Geo Washington, Hamburg, 2 cs.
C. W. Sellers, A. Ballin, Hamburg, 9 cs.

COVER PAPER

International Fdg. Co., A. Ballin, Hamburg, 4 cs.

TISSUE PAPER

F. C. Strype, Hamburg, Hamburg, 6 cs.
W. J. Byrnes, Majestic, Southampton, 5 cs.

SILK PAPER

Whiting & Patterson Co., Inc., Statendam, Rotterdam, 2 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Carmania, London, 18 cs.
H. Reeve Angel & Co., Majestic, Southampton, 120 bls, 13 cs.
J. Mauheimer, Majestic, Southampton, 196 bls.

FILTER PULP

A. Giese & Son, Hamburg, Hamburg, 20 bls.

SURFACE COATED PAPER

Gevaert Co. of America, Westernland, Antwerp, 43 cs.
P. H. Petry & Co., A. Ballin, Hamburg, 5 cs.
Globe Shipping Co., A. Ballin, Hamburg, 2 cs.

BARYTA COATED PAPER

J. H. Schrneder Banking Corp., Stuttgart, Bremen, 146, cs.
J. H. Schrneder Banking Corp., Bremen, Bremen, 17 cs.
Globe Shipping Co., Bremen, Bremen, 5 cs.

METAL COATED PAPER

F. C. Gerlach & Co., Hamburg, Hamburg, 16 cs.
F. C. Gerlach & Co., A. Ballin, Hamburg, 4 cs.
K. Paule Corp., A. Ballin, Hamburg, 35 cs.

COATED PAPER

Bank of America, Nat'l. Ass'n., Hamburg, Hamburg, 6 cs.
Bank of America Nat'l. Ass'n., A. Ballin, Hamburg, 21 cs.

PHOTO PAPER

Gevaert Co. of America, Westernland, Antwerp, 54 cs.
J. H. Schrneder Banking Corp., Columbus, Bremen, 3 cs.
J. J. Gavin, Majestic, Southampton, 3 cs.

COLORED PAPER

S. Gilbert, Columbus, Bremen, 2 cs.
Quality Art Novelty Co., Columbus, Bremen, 10 cs.

PARCHMENT PAPER

S. Bienfang, Statendam, Rotterdam, 6 cs.

WAFER PAPER

——, Statendam, Rotterdam, 16 cs.

STENCIL PAPER

W. L. Newberry, Majestic, Southampton, 1 cs.
——, Columbus, Bremen, 13 cs.

CAOUTCHOUC PAPER

American Express Co., A. Ballin, Hamburg, 6 cs.

PASTE BOARD

Premier Flong Co., Stuttgart, Bremen, 91 cs.

MISCELLANEOUS PAPER

The Borregaard Co. Inc., Kungsholm, Gothenburg, 55 rolls.
J. E. Anderson, Kungsholm, Gothenburg, 8 cs.
D. C. Andrews & Co., Kungsholm, Gothenburg, 2 cs.
Wilkinson Bros. & Co. Inc., Kungsholm, Gothenburg, 33 cs.
P. C. Zuhlke, Westernland, Antwerp, 1 cs.
Fuchs & Lang Mfg. Co., Stuttgart, Bremen, 2 cs.
Satisfaction Supply Co., Rochamhean, Havre, 1 cs.
American Express Co., Waukegan, Havre, 1 cs.
Heemsoth Basse & Co., Statendam, Rotterdam, 72 bls.
Globe Shipping Co., Statendam, Rotterdam, 47 cs.
C. Bruning, Statendam, Rotterdam, 103 rolls.
Distinctive Writing Paper Co., Paris, Havre, 12 cs.
Keller Dorian Paper Co., Paris, Havre, 23 cs.
Standard Products Corp., Paris, Havre, 59 cs.

RAGS, BAGGINGS, ETC.

J. Cohen & Son, Samaria, Liverpool, 16 bls. paper stock.
Castle & Overton Inc., Stuttgart, Bremen, 26 bls. rags.
International Acceptance Bank, Stuttgart, Bremen, 51 bls. bagging.
Chase National Bank, Rochambean, Havre, 67 bls. rags.
Chase National Bank, Waukegan, Havre, 52 bls. rags.
Castle & Overton Inc., Waukegan, Havre, 37 bls. bagging.
W. D. Andrews, Waukegan Dunkirk, 84 bls. flax waste.
F. Stern, Schleswig Holstein, Antwerp, 36 bls. rags.
——, Schleswig Holstein, Antwerp, 4 bls. rags.
First National Bank of Boston, Schleswig Holstein, Antwerp, 78 bls. flax waste.
The Barrett Co., Schleswig Holstein, Antwerp, 124 bls. rags.
C. R. Spruce, Caledonia, Glasgow, 80 bls. rags.
——, Caledonia, Glasgow, 45 bls. paper stock.
N. Y. Trust Co., Missouri, London, 56 bls. rags.
Amtorg Trading Corp., Usworth, Leningrad, 4657 bls. rags.
Banco Com'l Italiane Trust Co., Isonzo, Genoa, 147 bls. rags.
E. J. Keller Co., Inc., Cabo Mayor, —X—, 38 bls. bagging.
Chemical Bank & Trust Co., Cabo Mayor, Barcelona, 77 bls. bagging; 153 bls. rags.
Castle & Overton, Cabo Mayor, Barcelona, 102 bls. rags.
International Trust Co., Cabo Mayor, Barcelona, 40 bls. bagging.

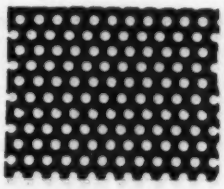
OLD ROPE

Brown Bros. & Co., Exeter City, Bristol, 136 coils.
Castle & Overton Inc., Carmania, London, 108 coils.
International Trust Co. Angvald, Barcelona, 39 coils.
M. E. Berzen, Cabo Mayor, Barcelona, 110 coils.

(Continued on page 66)

Perforated Metal Screens

For Pulp and Paper Mills



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Imports of Paper and Paper Stock

(Continued from page 64)

CHINA CLAY

——, Exeter City, Bristol, 50 casks.

WOOD PULP

Parsons & Whittemore Inc., Kungsholm, Gothenburg, 600 bls. sulphite; 1260 bls. sulphate.

Johanson Wales & Sparre Inc., Kungsholm, Gothenburg, 1625 bls. sulphate; 1600 bls. chemical pulp.

Perkins Goodwin & Co., Kungsholm, Gothenburg, 91 bls. sulphate.

Bulkley Dunton & Co., Saco ——, 79 bls. wood pulp.

Castle & Overton Inc., Hamburg, Hamburg, 935 bls. wood pulp, 127 tons.

——, Hamburg, Hamburg, 130 bls. wood pulp, 26 tons.

——, S. von Utrecht Archangel, 4211 cords, pulp wood.

Atterbury Bros. Inc., Oscar II, Oslo, 300 bls. wood pulp, 50 tons.

Lagerloef Trading Co., Odensholm, Helsingfors, 153 bls. sulphite.

Stora Kopperberg Corp., Odensholm, Skutskar, 450 bls. wood pulp.

Johanson Wales & Sparre Inc., Odensholm, Svartvick, 2400 bls. sulphate.

Bulkley Dunton & Co., Odenholm, ——, 2400 bls. sulphite.

Scandinavian Pulp Company Inc., Odensholm, Soraker, 250 bls. sulphite.

Perkins Goodwin & Co., Odenholm, Soraker, 250 bls. sulphite.

Johanson Wales & Sparre Inc., Odensholm Soraker, 1750 bls. sulphite.

Bulkley Dunton & Co., Sagoporack, ——, 2400 bls sulphite, 480 tons; 8750 bls. sulphate, 1750 tons; 1500 bls. wood pulp, 304 tons.

J. Anderson & Co., Sagoporack, Hermosand, 6,000 bls. sulphite, 1,000 tons.

Pagel Horton & Co., Inc., Sagoporack, Gefle, 1,250 bls. wood pulp, 127 tons.

M. Gottesman & Co. Inc., Sagoporack, Iggesund, 2500 bls. sulphite, 500 tons.

Brown Bros. & Co., Sagoporack, Morrsundt, 5,000 lbs. sulphate, 1016 tons.

Lagerloef Trading Co., Hjelmaren, Viborg, 170 bls. sulphate.

Lagerloef Trading Co., Hjelmaren, Kotka, 1,391 bls. sulphite.

Lagerloef Trading Co., Bird City, Kemi, 940 bls. sulphate, 156 tons.

Lagerloef Trading Co., Bird City, Rauma, 320 bls. sulphite, 52 tons.

——, A. Ballin, Hamburg, 140 bls. wood pulp, 28 tons

Castle & Overton Inc., A. Ballin, Hamburg, 1448 bls. wood pulp, 211 tons.

——, Milwaukee, Hamburg, 133 bls. sulphite, 26 tons.

M. Gottesman & Co., Inc., Alberta, Sebenico, 800 bls. wood pulp.

WOOD FLOUR

The Burnet Co., Saco, Rotterdam, 912 bags, 41,710 kilos.

The Burnet Co., Statendam, Rotterdam, 1,000 bags.

State Chemical Co. Statendam, Rotterdam, 400 bags.

F. W. Schmalz Co., Statendam, Rotterdam, 200 bags.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 11, 1930

S. Shapiro Son, Waukegan, Dunkirk, 100 bls. rags.

Castle & Overton, Inc., Waukegan, Dunkirk, 210 bls. rags.

National City Bank, Missouri, London, 147 bls. rags.

W. Steck & Co., Indep. Hall, Dunkirk, 65 bls. flax waste.

NORFOLK IMPORTS

WEEK ENDING OCTOBER 11, 1930

Lagerloef Trading Co., Odensholm Viborg, 3092 bls. sulphite; 612 bls. sulphate.

W. M. Stone & Co., Odensholm, Kotka, 254 rolls news print.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 11, 1930

W. J. Jones & Co., Waukegan, Havre, 9 cs. wall paper.

Castle & Overton, Inc., Waukegan, Havre, 127 bls. rags.

National City Bank, Waukegan, Havre, 26 bls. rags.

Lagerloef Trading Co., Odensholm, Viborg, 4640 bls. sulphite.

Lagerloef Trading Co., Odensholm Viborg, 500 bls. sulphate.

Lagerloef Trading Co., Odensholm, Kotka, 660 rolls wood pulp boards.

Stora Kopperberg Corp., Odensholm Skutskar, 3,175 bls. wood pulp.

Brown Bros. & Co., Odensholm, Skutskar, 750 bls. sulphate.

Johanson Wales & Sparre Inc., Odensholm, Svartvik, 2,220 bls. sulphite.

Perkins Goodwin & Co., Odensholm, Svartvik, 125 bls. sulphite.

Perkins, Goodwin & Co., Odenholm, Soraker, 1,000 bls. sulphite.

Liberty National Bank, Ala Antwerp, 57 bls. rags.

Paper Manufacturers Co., Ala, Antwerp, 23 Parchment paper.

Irving Trust Co., Ala, Antwerp, 97 bls. paper stock.

Castle & Overton Inc., Ala, Antwerp, 203 cs rags.

S. E. Ingler, Ala, Antwerp, 147 bls. rags.

——, Excello Alexandria, 35 bls. rags.

Lagerloef Trading Co., Bird City, Kemi, 5330 bls. sulphate, 890 tons; 2320 bls. sulphite, 382 tons.

—— Augvald, Marseilles, 279 bls. rags.

Chemical Bank & Trust Co., Cabo Mayor, Barcelona, 59 bls. rags

——, Cabo Mayor, Barcelona, 354 bls. rags.

New York Trust Co., Cabo Mayor, Barcelona, 87 bls. rags.

Nat'l Vulcanized Fibre Co., Cabo Mayor, Barcelona, 96 bls. rags.

Schmoll fils, Cabo Mayor, Barcelona, 211 bls. fleshings.

PORTLAND IMPORTS

WEEK ENDING OCTOBER 11, 1930

Lagerloef Trading Co., Bird City, Kemi, 7863 bls. wood pulp, 1312 tons.

Lagerloef Trading Co., Bird City, Rauma, 8,112 bls. sulphite, 1,400 tons.

Lagerloef Trading Co., Bird City, Kotka, 280 bls. sulphate, 56 tons.

——, Bird City, Kotka, 951 bls. sulphate, 190 tons.

——, Bird City, 356 bls. sulphite, 62 tons.

——, Bird City, Kotka, 37 rolls news print.

BOSTON IMPORTS

WEEK ENDING OCTOBER 11, 1930

Baring Bros. Inc., Missouri, London, 213 bls. waste paper.

Crocker Burbank Co., Missouri, London, 269 bls. waste paper.

Crocker Burbank Co., Missouri, London, 192 bls. waste paper.

Bulkley Dunton & Co. Ala, 675 bls. wood pulp, 135 tons.

Brown Bros. & Co., Ala, Antwerp, 101 bls. old rope.

American Express Co., Ala, Antwerp, 94 rolls paper.

Lagerloef Trading Co., Bird City, Helsingfors, 169 bls. sulphite, 25 tons.

Lagerloef Trading Co., Bird City, Kemi, 1,929 bls. sulphate, 321 tons.

Lagerloef Trading Co., Bird City, Rauma, 400 bls. sulphite, 66 tons.

——, Bird City, Kotka, 1,016 bls. sulphate, 203 tons.

——, Bird City, Kotka, 2,306 bls. sulphite, 385 tons.

——, Bird City, Kotka, 54 rolls news print.

Johanson Wales & Sparre Inc., Alberta, Trieste, 490 bls. wood pulp.

Brown Bros. & Co., Alberta, Trieste, 62 bls. old rope.

M. Gottesman & Co. Inc., Alberta, Sebenico, 3,400 bls. wood pulp.

Southwestern Paper Co. Shows Paper Reels

HOUSTON, Tex., October 11, 1930.—Through the courtesy of Fred E. Campbell, vice president and general manager of the Southwestern Paper Company, a three reel motion picture entitled "The Romance of Paper" has been shown before the Houston-Galveston Printers Association, the Advertising Association, Rice Institute, and other Civic bodies.

The picture shows the manufacture of paper from the primitive age up to the present time when most modern methods are employed. The picture is of an educational nature, and has been enthusiastically received.

The Southwestern Paper Company is the oldest Fine Paper House in the Southwest, having distributed "Butler Brand" Papers since the day of the covered wagon.

Fort Edward Mill to Resume

[FROM OUR REGULAR CORRESPONDENT]

FORT EDWARD, N. Y., October 11, 1930.—Operations were resumed this week at the local branch of the International Paper Company following a brief curtailment and it is understood that sufficient orders have been received to guarantee normal schedules for some time ahead. Announcement is also made of the appointment of James Leonard to the position as general superintendent to succeed the late R. E. Kohike, who died suddenly last month. Mr. Leonard had been holding the position on trial for several weeks but it was not until this week that word was received of his permanent appointment. The new superintendent has been connected with the firm for many years and his prompt and efficient manner in performing his duties were largely instrumental for his deserved promotion.

R. Cohen & Son To Take Over New Plant

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., October 6, 1930.—The firm of R. Cohen & Son, waste paper dealers, is reported to have completed negotiations for taking over a new plant at Fort Edward which was formerly used by dairy dealers. It was said that the new plant would be used as a warehouse and distributing point for the products of the firm. The company handles waste paper in large quantities and in the past has supplied the International Paper Company and other concerns in this vicinity. The Fort Edward plant has excellent shipping facilities for handling the business of the new owners and it is said that it will be taken over early this month.

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There has been considerable discussion as to what responsibility accountants should take for inventories when making audits. A booklet on this subject will be sent on request to bankers or executives.

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PROVIDENCE BOSTON NEW YORK
PHILADELPHIA CHARLOTTE

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, October 15, 1930.

Some improvement was noticed in the local paper market. Demand for the various grades of paper during the past week was more active. Inquiries for future needs are being received in good volume. Sales forces of the leading paper organizations are booking many desirable orders and are generally optimistic regarding the immediate outlook. Prices are steadier.

The news print situation is practically unchanged. During September the Canadian mills operated at 66.8 per cent of rated capacity, United States mills at 70.2 per cent and Newfoundland mills at 103.2 per cent, according to the News Print Service Bureau. Stocks at the mills at the end of September totalled 93,374 tons, equivalent to 5.5 days average output.

Trading in the paper board market was moderately active. The box board price situation, however, remains unsatisfactory. Steadiness continues to prevail in the fine paper market, while tissues are going forward in seasonal volume. The coarse paper market is rather spotty although the demand for wrapping paper is expanding. Prices are rather irregular.

Mechanical Pulp

Conditions in the ground wood market are fairly satisfactory for the time of year. Offerings of both imported and domestic mechanical pulp are about sufficient to take care of current requirements although there are no excessive accumulations. There are a fair number of inquiries around for future account. Prices are generally holding to schedule, without difficulty.

Chemical Pulp

While demand for both domestic and foreign chemical pulp is below normal for the season some good orders are being booked for 1931 delivery. Contract shipments are moving in a fairly satisfactory manner considering the general business depression. Prices are generally holding to formerly quoted levels, although competition for desirable business is decidedly keen.

Old Rope and Bagging

The old rope market is exhibiting a fairly strong undertone. While demand is only moderately active, offerings of both foreign and domestic old manila rope are somewhat limited. Small mixed rope is fairly steady. Prices generally remain unchanged. No radical changes were recorded in the bagging market. Both scrap and gunny are in seasonal request.

Rags

Demand for paper making rags is showing signs of expansion. Cotton cuttings are in excellent request at present and, as offerings are not large, prices rule steady to firm. Mixed rags are moving in normal volume for the season. Roofing grades are quiet at present. The imported rag market is practically unchanged. No radical price changes have been reported.

Waste Paper

Board mill interest in the lower grades of paper stock is more in evidence than for some time past. Prices are still regarded too low. The better grades of waste paper are exhibiting a strong undertone, especially soft white shavings and hard white envelope cuttings, offerings for which are decidedly limited. Book stock is rather quiet at present.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. However, there should be an ever growing demand for the various grades from now until the end of the year, at least. Prices are generally holding to previously quoted levels and there is little talk of concessions around.

Kalamazoo Paper Mill Play Golf

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., October 14, 1930—The annual golf luncheon and tournament, with Alex. W. Macvie as host, was held Saturday at the Arcadia Brook course. The affair was complimentary to Macvie's paper mill patrons in the Kalamazoo valley and guests attended from Kalamazoo, Watervleit, Otsego, Plainwell and Vicksburg. Luncheon was served at the Happy Huntsmen Club House and the afternoon was spent on the links.

There was a liberal distribution of prizes following play. Among the regular tournament winners were Dallas Bachelder, Sutherland Paper Company; Frank Baron, Michigan Paper Company; Harry C. Bradford, Rex Paper Company and William Anderson, Allied Paper Mills. Messrs. Bachelder and Bradford were also awarded special prizes by J. Reynolds Verdon and William Taylor, of the Kalbfleisch Corporation.

Union Bag Mill Resumes Operations

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., October 11, 1930.—The Allen Mill of the Union Bag and Paper Company resumed operations this week after being closed for several days in order to make needed repairs. Orders are said to have been booked which will permit better working schedules than have existed for some time past. The Fenimore Mill is operating on a schedule of four days a week with indications that it will soon return to full time.

George Brooks, auditor of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers' Union, has returned to his office in this village after spending a vacation at his summer home near Salisbury in the Adirondacks. It is his intention to make his home here where he can attend to the duties of his position in a more capable manner.

Superintendents to Meet At Newark

The first Fall meeting of the Pennsylvania-New Jersey Division of the American Pulp and Paper Mill Superintendents' Association, which will be their annual meeting, will be held at the Hotel Douglas, Newark, N. J. on Saturday, October 25, the business session opening at 9 o'clock in the morning. The chairman in charge of Committee on Arrangements is John H. Loomis, of the Heller & Merz Company, New York City. The annual election of officers will take place during this meeting. While in Newark those attending will be guests of the Heller & Merz Company, which has invited them to visit their experimental laboratories where the members will be afforded the opportunity of witnessing the operation of a 14-inch paper-making machine.

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For Paper Mills
GRAND CENTRAL TERMINAL BLDG., NEW YORK

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, October 15, 1930.

BLANC FIXE.—Conditions in the blanc fixe market are practically unchanged. The contract movement is fairly heavy. Prices are steady. The pulp is still quoted at from $42.50 to $45.00 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market was moderately active. Shipments against contract are going forward in normal volume for the time of year. Prices are generally holding to schedule. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds in drums, at works.

CASEIN.—Demand for casein is fairly persistent. Prices remain unchanged. Domestic standard ground is quoted at 12½ cents and finely ground at 14 cents per pound. Argentine standard ground is selling at 13½ cents and finely ground at 14½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Production of caustic soda is being maintained in sufficient volume to take care of current requirements. Solid caustic soda is quoted at from $2.90 to $2.95, while the flake and the ground are selling at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is exhibiting a strong undertone. Prices are holding to formerly quoted levels without difficulty. Imported china clay is quoted from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Steadiness prevails in the chlorine market. The contract movement is well up to average for the season. Prices are holding to schedule. Chlorine is still quoted at from $2.40 to $2.45 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market was slightly firmer during the past week. The grades of gum rosin used in the paper mills are now quoted at from $5.65 to $5.70 per 280 pounds, in barrels, at yard. Wood rosin was steadier and is now offered at $4.70 per 280 pounds, in barrels, on dock.

SALT CAKE.—Offerings of salt cake are adequate to take care of immediate needs. Contract shipments are moving at a satisfactory pace. Prices remain unchanged. Salt cake is quoted at from $22 to $25 per ton, while chrome salt cake is selling at from $20 to $21 per ton, in bulk, at works.

SODA ASH.—The soda ash market is displaying a fairly steady trend. Shipments against contract are going forward to the paper mills in good volume. Prices remain unchanged. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½; and in barrels, $1.55 per 100 pounds.

STARCH.—Following the recently reported recessions, there were no further changes in the starch market. Contract shipments are moving in satisfactory volume for the season. Special paper making starch is quoted at $3.62 per 100 pounds, in bags; and at $3.89, in barrels, at works.

SULPHATE OF ALUMINA.—Trading in the sulphate of alumina market was fairly active. The contract movement was mostly seasonal. Prices remain unchanged. Commercial grades are quoted at from $1.40 to $1.55, and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The suphur market is in a sound position. Prices are steady. Sulphur is quoted at $18 per ton, at mine, on orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market was along routine lines. Supplies are moving into consumption in good volume. Domestic talc is still quoted at from $16 to $18 per ton, in bulk, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	9.00	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	8.00	@	11.00
Book, Cased—			
S. & S. C.	6.00	@	7.50
M. F.	5.75	@	7.00
Coated and Enamel	7.50	@	12.00
Lithograph	7.50	@	12.00
Tissues—Per Ream—			
White No. 1	.75	@	1.00
Anti-Tarnish	1.35	@	1.90
Colored	1.00	@	2.00
White No. 2	.75	@	.80
Kraft	1.00	@	1.10
Manila	.75	@	.80
Kraft—			
No. 1 Domestic	5.75	@	6.25
No. 2 Domestic	3.75	@	5.00
Southern	3.50	@	4.50
Imported	6.50	@	7.00
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.75	@	5.25
No. 2 Wood	4.00	@	4.50
Butchers	3.75	@	4.25
Fibre Papers—			
No. 1 Fibre	5.00	@	5.50
No. 2 Fibre	4.75	@	5.25
Common Bogus	2.75	@	3.00
Screenings	3.00	@	3.25
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs.	13.00	@	16.00
Bleached, basis 20 lbs.	15.00	@	16.00

(Delivered New York)

News, per ton—			
Rolls, contract	62.00	@	—
Rolls, spot	62.00	@	—
Sheets	67.00	@	—
Side Runs	47.00	@	52.00
Boards—per ton—			
News	30.00	@	—
Straw	40.00	@	—
Chip	27.50	@	—
Binders' Boards	65.00	@	70.00
85 Test Jute Liner	37.50	@	40.00
Sgl. Mla. Li. Chip.	42.50	@	45.00

(F. o. b. Mill)

Wood Pulp Boards	75.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	28.00	@	30.00
Dry	30.00	@	32.00

(F. o. b. Mill)

No. 1 Domestic	26.00	@	30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	3.00	@	4.25
Easy Bleaching	2.60	@	2.80
No. 1 strong unbleached	2.10	@	2.65
Mitscherlich unbleached	2.25	@	2.85
No. 2 strong unbleached	2.10	@	2.35
No. 1 Kraft	1.65	@	2.15
No. 2 Kraft	1.55	@	1.65
Sulphate—			
Bleached	3.40	@	3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	2.65	@	4.75
Easy Bleaching Sulphite	2.55	@	2.75
News Sulphite	2.35	@	2.60
Mitscherlich	2.75	@	3.25
Kraft (Domestic)	2.10	@	3.30
Soda Bleached	2.90	@	3.20

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	8.25	@	8.75
New White, No. 2	7.25	@	7.75
Silesias No. 1	6.50	@	7.00
New Unbleached	9.00	@	9.50
New Blue Prints	5.25	@	5.50
New Soft Blacks	4.50	@	5.00
Blue Overall	6.50	@	6.75
Washables	4.25	@	4.75
Fancy	4.75	@	5.25
Mixed Khaki Cuttings	4.75	@	5.25
Pink Corset Cuttings	7.50	@	8.00
O. D. Khaki Cuttings	5.15	@	5.75
Men's Corduroy	3.75	@	4.25
New Mixed Blacks	3.50	@	3.75

Old Rags

White, No. 1—			
Repacked	5.50	@	6.00
Miscellaneous	4.50	@	5.00
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.50	@	2.75
St. Soiled, White	2.00	@	2.15
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.25	@	1.30
No. 1	1.25	@	1.30
No. 2	.90	@	1.00
No. 3	.70	@	.80
No. 4	.65	@	.70
No. 5A	.50	@	.60

Foreign Rags

New Rags

New Dark Cuttings	2.50	@	3.00
New Mixed Cuttings	2.25	@	2.75
New Light Silesias	6.25	@	6.50
Light Flannelettes	6.50	@	7.00
Unbleached Cuttings	9.00	@	9.50
New White Cuttings	8.00	@	8.50
New Light Oxfords	6.00	@	6.50
New Light Prints	4.75	@	5.25

Old Rags

No. 1 White Linens	7.25	@	8.00
No. 2 White Linens	5.75	@	6.75
No. 3 White Linens	4.75	@	5.25
No. 4 White Linens	3.00	@	3.50
No. 1 White Cotton	5.50	@	6.25
No. 2 White Cotton	4.50	@	5.00
No. 3 White Cotton	3.00	@	4.00
No. 4 White Cotton	1.75	@	2.10
Extra Light Prints	2.75	@	3.00
Ord. Light Prints	2.15	@	2.40
Med. Light Prints	1.70	@	1.80
Dutch Blue Cottons	2.10	@	2.20
French Blue Linens	2.65	@	2.75
German Blue Linens	2.25	@	2.40
German Blue Cottons	1.85	@	1.90
Checks and Blues	1.85	@	1.90
Lindsay Garments	1.20	@	1.30
Dark Cottons	1.00	@	1.10
Old Shopperies	.95	@	1.00
New Shopperies	.95	@	1.05
French Blues	1.90	@	2.00

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.60	@	1.65
Domestic	1.65	@	1.75
Wool Tares, light	1.35	@	1.45
Wool Tares, heavy	1.40	@	1.45
Bright Bagging	1.35	@	1.45
Small Mixed Rope	1.15	@	1.25
Manila Rope—			
Foreign	2.85	@	3.00
Domestic	3.25	@	3.50
New Burlap Cut	2.25	@	2.50
Hessian Jute Threads—			
Foreign	3.50	@	4.00
Domestic	2.50	@	2.75

Old Waste Papers

(F. o. b. New York)

Shavings—			
Hard, white, No. 1	3.00	@	3.25
Hard, white, No. 2	2.40	@	2.55
Soft, white, No. 1	2.80	@	2.90
White envelope cuttings	2.90	@	3.10
Flat Stock—			
Stitchless	1.30	@	1.40
Overissue Mag.	1.30	@	1.40
Solid Flat Book	1.20	@	1.30
Crumpled No. 1	.90	@	1.00
Solid Book Ledger	2.00	@	2.10
Ledger Stock	1.30	@	1.40
New B. B. Chips	.35	@	.45
Manilas—			
New Env. Cut.	2.40	@	2.60
New Cuttings	1.50	@	1.75
Extra No. 1 old	1.25	@	1.35
Print	.60	@	.65
Bogus Wrapper	.60	@	.65
Container	.40	@	.50
Old Kraft Machine—			
Compressed bales	1.45	@	1.55
News—			
No. 1 White News	1.77	@	1.87
Strictly Overissue	.30	@	.35
Strictly Folded	.35	@	.40
No. 1 Mixed Paper	.25	@	.30
Common Paper	.15	@	.20

OCTOBER 1st, 1930

ANNOUNCING

the appointment of Mr. H. E. Lindquist as Manager of our

Domestic Mill Department

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Analomink Paper Mill

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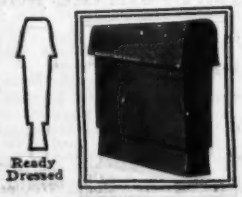

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"Perfection" WIRES
"Perfection" VALVES

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrappings, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.21	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53½
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¾	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	5.00	@	5.50
Southern Kraft	3.75	@	4.00
No. 2 Kraft	3.75	@	4.00
Wood Tag Boards	.04¼	@	.06½
Sulphite Screenings	.03	@	.03¾
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½

(Delivered Central Territory)

News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	30.00	@	35.00
Solid News	37.50	@	—
Solid News	32.50	@	37.50
Manila Lined Chip	40.00	@	45.00
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cut-			
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.30	@	.35
No. 2 Mixed	.25	@	.35
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Kraftz	1.30	@	1.40
New Kraft Cuts	1.50	@	1.70
Manila Envelope Cuttings	1.65	@	1.70
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.45	@	.50
Folded News (over-issue	.40	@	.45
Old Newspapers—			
No. 1	.35	@	.40
No. 2	.30	@	.35
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.03½	@	.05½
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03½	@	.04
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.03½
Common Bogus	.03	@	.04

(Delivered Philadelphia)

News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	32.50	@	35.00
Chip Board	30.00	@	32.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.09	@	.09½
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.08½	@	.09
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03¼
Fancy	.05	@	.05½
New Black Soft	.05	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	.90	@	1.00
No. 2 Mixed	.60	@	.70
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.05	@	1.25
No. 1 Books, heavy	1.00	@	1.15
No. 2 Books, light	.90	@	.95
No. 1 New Manila	2.15	@	2.30
No. 1 Old Manila	1.50	@	1.60
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.35	@	1.40
Common Paper	.25	@	.35
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Corrugated Board	.50	@	.60
Overissue News	.45	@	.50
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	6.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.25	@	1.30
Repacked	.80	@	.90
No. 2	.70	@	.75
No. 3 (Roofing)	.30	@	.40
No. 4	.30	@	.40
No. 5A	.70	@	.75
B	.40	@	.60
C	.25	@	.30

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.13
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04½	@	.06
No. 2 Kraft	.03¾	@	.05

(Less car-freight to Boston)

Southern Kraft	.03¾	@	.04¼

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

Delivered New England points

News Print Rolls	61.50	@	—
Straw Boards, rolls	.009		52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	32.50	@	—
Chip Board	30.00	@	—
Chip Board (Special)	32.50	@	—
Single Manila Lined Chip	45.00	@	—
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00

(F. o. b. Mill)

Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	—	@	2.25
No. 1 Books, Heavy	1.00	@	—
No. 1 Books, Light	.85	@	—
Crumpled Stitchless Book Stock	—	@	.70
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	—	@	1.00
White Blank News	1.50	@	1.60
Old Kraft	1.30	@	1.35
Print Manila	.75	@	.80
No. 1 Mixed Paper	.20	@	.25
Overissue News	.35	@	.40
Old Newspapers	.37½	@	.40
Box Board, Chip	.50	@	.55
Corrugated Boxes	—	@	.35

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.65
Domestic	1.60	@	—
Manila Rope—			
Foreign	3.00	@	3.25
Domestic	—	@	3.50
Transmission Rope	2.35	@	2.50
Mixed Strings	.75	@	1.00
Jute Wool Strings	1.00	@	—
Jute Carpet Threads	1.00	@	1.10
Scrap Burlaps	1.30	@	1.35
Scrap Sisal	—	@	1.50
Scrap Sisal for shredding	—	@	1.75
Wool Tares, heavy	—	@	1.40
New Burlap Cutting	1.75	@	2.00
Australian Wool Pouches	2.50	@	2.75
Heavy Baling Bagging	—	@	2.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08	@	.08½
New White No. 2	—	@	.06
Silesias No. 1	.06	@	.06¼
New Unbleached	—	@	.09¼
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¼
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04	@	.04¼
O. D. Khaki	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.08¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.25	@	1.50
No. 2	.90	@	1.00
No. 3	.85	@	.90
No. 4	.75	@	.85

Foreign Rags
(F. o. b. Boston)

Dark Cottons	—	@	.95
New No. 1 Shirt Cuttings	8.00	@	8.50
Dutch Blues	—	@	2.00
Lace Curtains	4.50	@	4.75
New Checks & Blues	4.25	@	4.60
Old Fustians	—	@	1.75
Old Linsey Garments	—	@	1.12½

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¼	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.00	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	30.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	72.50	@	75.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writ-			
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.04	@	.04

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the bulk of this volume.

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